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LECTURES
ON
MEDICAL JURISPRUDENCE,
NOW IN COURSE OF DELIVERY
AT THE
UNIVERSITY OF LONDON.

BY PROFESSOR A. T. THOMSON.

LECTURE XXX.

SUDDEN DEATH.—*Its investigation before a coroner. Mode of conducting the medical observations. Conditions simulating death. The signs of death,—cessation of respiration and putrefaction. The evidences of the latter. Signs that injury was inflicted before death. Ecchymosis; Dr. Christison's experiments. Discolourings in the dead body. Causes of sudden death. Post-mortem appearances.*

GENTLEMEN:—That man is born to die is a truth which every hour's experience impresses upon the minds of mortals. But, when death approaches the sick bed, when he lays his freezing hand upon the heart of the aged, or arrests the course of mortality in any of the thousand ways in which he usually secures his victim, the attention and the interest of those who are not connected by ties of blood or friendship with the sufferer, are scarcely roused; the event occurs, and passes unheeded and unregarded. On the other hand, when the power of death is displayed without any evidence of the manner of his approach; when a dead body is found in the street, or on the high way; when a person, who was in good health at night, is discovered as a corpse in the morning; or, when the debt of mortality is paid in any sudden or unexpected manner, then immediately curiosity and interest are awakened, and every circumstance is investigated that can tend to throw the faintest gleam of light upon the event. In most civilized countries, however, this inquiry is not left to chance, but devolves upon an officer, legally appointed, whose duty it is to examine every circumstance connected with all cases of sudden or suspicious death: in England this officer, you know, is denominated a Coroner. The mode of electing a Coroner, and his duties, and the power and authority which he possesses of calling together a jury, and summoning before him professional men, have been already explained to you.

Let us suppose a case of sudden death to occur, and that any one of you is called upon to examine into the causes of it. A question arises; in what manner are you to conduct yourselves on such an occasion? In the first place, if the corpse be found in the field, in the highway, or in the street, you must divest your minds of every idea of murder, or suicide, or any unfair means having been the cause of death, until it be made so obvious as to admit of no doubt. You must examine, before the body is touched, if it have not been already moved, the position in which it lies, whether that indicate a fall from sudden insensibility, or vertigo, or whether it lead to suspicion that the person had been beaten or knocked down. If any instrument be in the hand, or lying near the body, its nature, and the position in which it is found lying, in reference to the body, must be noted down, as the presence of an instrument of death near a dead body affords no evidence that that weapon had been employed as the cause of death, either by the person himself found dead, or by the hand of another. The state of the ground must, also, be carefully examined, whether blood be spilt upon it, and, if so, whether it lie in a pool near the body, or can be traced from a distance; whether the ground bear the mark of a struggle having taken place, or only display the impression of the fall of the person. In fact, every particular, relating both to the situation of the place where the body is discovered, as well as the condition in which it is found, are properly expected to be noted down by the medical witness, both because he is more able to make observations than the common crowd which usually collects on such occasions, and, also, because he is called upon to determine respecting the death of the

person, and must necessarily be a witness, in whatever court the cause of the death may become a subject of inquiry; and, also, because he is supposed, from his superior knowledge and education, to proceed to the inquiry with a mind freer from prejudice than the less instructed.

After having made these observations, the body must be removed into a house, stripped, and carefully examined, to ascertain the presence of wounds or bruises. If any be found, its length, breadth, and depth must be noted, as well as its condition with regard to hæmorrhage, inflammation, or gangrene; whether it be recent; whether a bullet, or any foreign body, be present in it; and with what description of instrument it has been inflicted, whether a cutting or stabbing weapon, or such as can only injure by a blow. The extent of the wound must be traced in the manner I lately described to you, and what nerves, blood-vessels, or viscera, have been penetrated. The dissection, under every circumstance which may have contributed to death, must be conducted with the utmost care and precision, in the manner I pointed out to you when treating of wounds; and I would further refer you for information on this subject to the third volume of FODERE's valuable work on legal medicine, and DEASES remarks on medical jurisprudence.

If the sudden death take place in a house, or a room, in the presence of others, the extent of inquiry becomes more limited; but, if no person have witnessed the death, the same inquiries are requisite as if the body were found in the fields.*

Before proceeding to notice in detail the causes of sudden death, whether arising from internal causes or external causes, whether accidental or intentional, in which I comprehend both murder and suicide, it may be proper to remind you that persons may appear dead who are actually not so, and, consequently, that in every case of supposed sudden death, the first object is to ascertain that the person is really dead.

There are various states, into which the living body may fall, which closely simulate death, namely, *syncope*, and that singular disease to which I have already had occasion to allude under the name of *catalepsy; eclampsy, concussion, strangulation, suffocation, drowning, intoxication*, and *mephitism*, all of these may terminate in actual death. I shall notice each of these in detail; but let us first inquire what are the signs of death?

There can be no doubt, that in warm climates, in Ireland, and some other countries in which early interment is customary, and in periods of epidemic and infectious diseases, persons have been prematurely committed to the grave, in whom, although there was apparent death, yet life still remained. In this country, therefore, and in many others, the rites of sepulture are deferred until putrefaction, the unequivocal test of the total cessation of every function of life, begins to display itself. Numerous well authenticated cases of apparent death might be mentioned; but not to occupy your time unnecessarily, I will mention a few only. DIEMERBROECK, in his work, "Tractatur de Peste," (lib. iv. hist. 85,) states, that a peasant, who had apparently died of the plague, and had discovered no signs of respiration after three days, on being carried to the grave, recovered, and lived many years afterwards. HOWARD, the philantrophist, in his work on prisons, mentions that he has known instances where persons supposed to be dead of the gaol fever, and brought out for burial, on being washed with cold water has shown signs of life, and soon afterwards recovered. Several instances of this kind have lately occurred in India. One of the most heart-rending accounts of premature interments that I know, refers to one of the family of CLOPTON, of Clopton-hall, near Stratford-on-Avon. A contagious fever was carried into the family, and attacked one of the daughters and a son. This young lady apparently died, and was deposited in the family vault, under the church at Stratford, on a bier, as was the custom of the period, the time of ELIZABETH, in great families who had vaults. About a week, or ten days afterwards, her brother actually died; and, on opening the vault, to prepare for his interment, the unfortunate lady was found sitting on the steps of the vault, having risen from her bier, and died, if not of the horror which her situation must have excited, of starvation. Perhaps some of you know the anecdote in the history of VESALIUS, the celebrated anatomist, regarding the dissection of a Spanish gentleman, in whom, on opening the thorax, the heart was found still pulsating. The unfortunate philosopher was brought before the Inquisition, and, but for the intercession of Philip the Second, to whom he was physician, would have been condemned to death. He expiated his unintentional offence by a journey to the Holy Land; and, in returning, was shipwrecked on the island of Zante, where he died of hunger. M. BRUHIER, a French physician in the seventeenth century, relates a case, on the authority of M. L'ABBE MENON, of a young woman who was restored from apparent death by the first incision of the anatomist's scalpel, and lived many years afterwards. Enough has been detailed to show the necessity of not pronouncing hastily on the presence of death, until the last unequivocal sign presents itself. At a late juncture, the state of collapse which occurred in Asiatic cholera, bore, in many instances, the closest similitude to death;

* It is felonious to bury the body of a person who has died suddenly, before an inquest has been taken.—RUSSELL, 416.

and, in a less enlightened age, might have added many instances to those already too numerous tales of horror, of hasty and inconsiderate entombment of the living. Those who are desirous of perusing extraordinary relations of this kind may be amply satisfied in the article, Premature Interment, in the "Encyclopædia Britannica;" in the works of DIMERBROECK and HILDANUS; and in the "Dissertation sur l'incertitude des signes de la mort et l'abus des intermens, et embaumements precipites," of JOHN BRUHIER, published in 1742. Many of the accounts of this description are, undoubtedly, fabulous; but it is impossible to deny that such instances have occurred.

The first of the signs of death, is the suspension of respiration, and of pulsation in the heart and arteries. The suspension of respiration is the most certain of these, and it cannot be continued many minutes without actual death supervening; whereas the action of the heart and arteries may be suspended for a considerable time, if respiration be still carried on, however obscurely, and yet those organs be again awakened to activity. But when respiration ceases, nothing can again arouse their function into action, the irritability of the heart depending solely on the due oxidizement, or change, of the vital fluid from venous to arterial blood; so true is the scriptural phrase, that "life is in the breath." The first object, therefore, in supposed death, whether occurring suddenly, or from lingering disease, is to ascertain whether respiration still continues. This can, in many instances, be perceived by baring the thorax and abdomen; for it is impossible for breathing to be carried on for many seconds without the influence of the respiratory muscles, the effect of the action of which is to elevate the ribs and depress the diaphragm, so as to push forward the sternum, and cause a momentary swelling of the abdomen. It is of great importance to the young practitioner, to accustom his eye to judge accurately of these movements, as the ordinary methods of applying a mirror to the mouth, or a downy feather near it, are both liable to error. If the mirror be warmer than the expired breath, no sign can be obtained by it, because the breath is not condensed upon it; or, the insensible perspiration from the hand of him who holds it may sully its surface; whilst "the light and weightless down," if confided in, will delude more than the prince, who is thus described as having been deceived by it, when carrying off the crown from the pillow of his royal father.

"——— By his gates of breath,
There lies a downy feather, which stirs not;
Did he suspire, that light and weightless down
Perchance must move."

Another symptom, the opacity and want of lustre in the eye, is equally fallacious; even the thin slimy membrane which covers the cornea in the eye of the dead, which breaks in pieces when touched, and is easily removed from the cornea by wiping, sometimes is formed many hours before death occurs; and I have seen it in cases which, after all hope had ceased, recovered. In several instances, also, this appearance does not present itself even after death; as, for instance, in cases of poisoning by hydrocyanic acid, in which the eye retains all its lustre for hours after death; and the iris even contracts when approached by a bright light. This sign, therefore, when taken alone, is of no value; although, in conjunction with others, it tends to confirm the suspicion that death has already gained his triumph.

The state of collapse which is one of the symptoms of cholera asphyxia, has demonstrated how little is the value of *coldness* of the body as a sign of death. In that singular disease, the coldness which accompanies the state of collapse is that of ice, and during it no pulsation can be perceived, even at the heart; yet the person lives and breathes, and frequently recovers. Drowned persons, also, in whom animation is only suspended, and who may be recalled to life, are always cold; whereas in some diseases, apoplexy, for example, a certain degree of warmth is perceived for many hours. I have noticed it in some bodies on the day after that on which the person died; and yet no doubt whatever existed that death had actually taken place. A beggar went to-bed drunk, and died suddenly during the night. On the next evening he was carried to the anatomical hall in Padua, and, on the *third* day after his death, he was dissected. MORGAGNI, who operated, found the body still warm. Paleness and lividity of countenance always accompany such a state of collapse as I have mentioned; the body even becomes blue; this sign, therefore, which is usually put down as one indicating death, is of less value than any of the others. Cases, on the other hand, have occurred in which the countenance has remained unchanged a considerable time after death; and, in some instances, as Dr. PARIS has remarked, "its colour and complexion have not only been preserved, but even heightened:" as if the spirit, scorning the blow which severed it from mortality, had left the smile it raised, upon the moveless features; or, as SHAKSPEARE would express it,—

"—— smiling, as some fly had tickled slumber,
Not as death's dart, being laugh'd at."

Next to putrefaction, the rigidity of the limbs is one of the most certain signs of death. It is true that stiffness of the limbs may proceed from several causes, but the rigidity thus produced is not difficult to distinguish from that of death. In some cases of syncope, and in catalepsy, there is con-

siderable stiffness; but, in such cases, it is accompanied with warmth, and takes place, as ORFILA has remarked, immediately after the commencement of the disease, whereas the stiffness of death does not commence until some time after death, when the animal heat is not longer perceptible to the senses. The stiffness which occurs in some convulsive affections is, also, as readily distinguished from the rigidity of death, by the fact, that although there is great difficulty in changing the position of the rigid limbs, yet, when left, they immediately resume their former position: in the stiffness of death, the direction of the limb which has been changed does not return to its former position. ORFILA has supposed, that it is possible to mistake the stiffness of a person who has been frozen, but is not dead, for that which is the inevitable result of death; but, in the former case, the stiffness is uniform; the skin, the mammæ and belly are as rigid as the muscles, a circumstance not present in the stiffness of death, in which the muscles alone display any degree of resistance. When the skin, also, of a frozen person is depressed by forcibly pressing the finger upon it, the hollow thus produced is a long time disappearing. He adds, when the position of a frozen limb is changed, a little noise is heard, caused by the rupture of the particles of ice contained in the displaced part. It must, however, be remarked, that this degree of freezing can only occur when the body has remained for some time after death exposed to extreme cold. I shall recur to this subject, in mentioning the signs which indicate that death has been the consequence of exposure to cold.

From all that has been said, it is evident that there are no certain signs that a person is truly dead, except the total cessation of respiration, and the commencing putridity of the body. The question then presents itself—by what means are we made aware of the existence of putrefaction?

In its earliest stage, putrefaction is suspected when the body becomes soft, and begins to exhale an offensive odour, and the fleshy parts to assume a dark colour. When it is no longer doubtful, the odour is strongly ammoniacal, the parts seem as if dissolving, their colour is constantly altering, and they separate into a kind of gelatinous mass. In such states of the body there can be no doubt that death is actually present; but, if we wish to investigate its causes by dissection, no certain judgment can be formed on the state of the soft parts, after the first stage of putrefaction, or, rather, a tendency to it, has passed. But dissection is available, even in the last stage, long after interment has taken place, if the object be to ascertain fractures or injuries to bones; and, also, in some cases of poisoning, where the substances are of a character not very susceptible of decomposition. FODERE relates a case of a dead body having been found in a field, in the arrondissement of Trevoux, during the month of May, 1811. It was in a state of putridity, and the surgeon, who was ordered to examine it, not liking the task, reported generally that he had discovered no marks of violence; but, on interring the body, it was remarked, on the dropping of a handkerchief which covered the head, that the bones of the cranium separated, and the brain issued out. A special examination of the head was ordered, and it was found that this person had received three blows from a cutting instrument, which separated the parietal bones from the rest of the skull. The bones had been replaced, and secured with the handkerchief. The murderers were afterwards discovered and punished. No rules can be laid down as to the time, after death, which may be allowed to intervene before putrefaction is likely to take place. If the person have died suddenly, it is likely to be retarded or accelerated only by the state of the weather: it is accelerated by heat and humidity, retarded by a cold and dry state of the atmosphere.

In the dissection of a body to ascertain the cause of sudden death, it is of importance to determine, as I shall have frequent occasion to notice, the distinction between violence done to the body during life and after death.

Hæmorrhage is usually supposed to indicate the existence of the circulation when the injury was inflicted, and, consequently, that the person was alive; but this is to be taken with some reservation. In those who die of malignant dieases, blood often flows from the mouth, nose, or ears, in which case, however, it is thinner and of a blacker colour than usual. Hæmorrhage, therefore, of itself is no proof that any wound had been inflicted during life, so as to destroy it; for when this really occurs, when death follows wounds capable of causing much hæmorrhage, the large vessels are generally found empty, and the blood is of a red or florid colour. Much care must also be taken not to confound ecchymosis and sugillations with contusions from violent blows. Ecchymosis is an effusion, or spreading of blood, into the cellular tissue, and may result from a violent blow rupturing one or more blood-vessels; but spots resembling ecchymosis appear soon after death, in debilitated habits especially, from the mere gravitation of the blood to the most depending part, or that on which the body rests. ZACCHIAS says, that these spots may be readily distinguished from ecchymoses arising from blows or bruises, from the blood in the part being fluid; whereas the discolourations, or true ecchymoses, from ex-

ternal violence, are characterised by a congestion of thick coagulated blood in the part.

It must also be recollected that blows inflicted on the body after death, simulate ecchymoses. Dr. CHRISTISON made some valuable experiments on this subject, and drew from them the following general conclusions:—

"In respect to external contusions, the experiments show that, for some hours after death, blows will cause appearances which, in point of colour, do not differ from the effects of blows inflicted recently, before death; that the discolouration generally arises, like lividity, from an effusion of the thinnest possible layer of the fluid part of the blood on the outer surface of the true skin, and sometimes, also, from an effusion of thin blood into a perceptible stratum of the true skin itself; and that dark fluid blood may be even diffused in the subcutaneous cellular tissue, in the seat of the discolourations, so as to blacken or redden the membranous partitions of the adipose cells; but this last effusion is never extensive. It can hardly be doubted that the appearances now described will exactly imitate slight contusions inflicted during life; but I conceive that the blows in the latter case must be trivial. When a blow inflicted during life is more severe, it may leave the following effects, few or none of which, so far as we know, can originate in violence after death:—

"1. There may be swelling, from the amount of the extravasation; this is certainly never caused in the dead body.

"2. When the violence has been applied a few days before death, there will be a yellow margin round the black mark, which is another appearance that cannot be formed except during life.

"3. There may be clots of blood in the subjacent cellular tissue, either with or without swelling; these appearances I have never seen accompanying contusions caused in the dead body; but it may be doubted whether clots might not be formed if the injury was not inflicted very soon after death, and have the effect of lacerating a considerable vessel in the neighbourhood of loose cellular tissue.

"4. In the instances, in which the blood does not coagulate at all after death, contusions caused during life may be recognised by the extent of the effusion into the cellular tissue. In a part not liable to be infiltrated by its position, and not in the vicinity of a large vein, a deep effusion of fluid blood, which fills and distends the cells of the cellular tissue, can hardly be produced in the dead body.

"5. Perhaps one of the most characteristic signs of a contusion inflicted during life is, incorporation of blood with the whole thickness of the skin, rendering it black instead of white, and increasing its firmness and resistance. This sign may not be always present, for, as every one knows, a blow may cause extensive extravasation below the skin without affecting the skin itself. But, when present, I am disposed to consider it characteristic, because I have never been able to produce it in the dead body, and it is not easy to conceive how such a change can be wrought, in so dense a texture as the skin, without the force and agency of living vessels. It is impossible to fix, absolutely, the limit of the interval beyond which contusions cannot be imitated by violence applied to the dead body; it appears to vary with the state of the blood, and the time which elapses before the body cools and the joints stiffen. Sometimes the appearance of contusions can hardly be produced two hours after death; sometimes they may be slightly caused three hours and a quarter after it, but I should be inclined to think this period very near the extreme limit. Wherever the warmth of the body and laxity of the muscles were not considerable at the time the injury was inflicted, we may be sure that the appearance of the contusions cannot be considerable. It is, probably, therefore, only on the trunk that even in the most favourable state of the body, namely, when the blood remains altogether fluid, any material mark of contusion can be produced so late as two hours after death."

Sugillations are, also, effusions of blood into the cellular tissue, but proceeding from internal causes; such, for example, as the commencement of the putrefaction, such as sometimes occurs during life, for instance, in malignant and petechial fevers. But sugillation coming on after death is always confined to a dependent part, which is not necessarily the case when it is the result of blows or strangulation.

The discoloured spots in dead bodies, if they arise from blows, often bear the impression of the instrument with which the blow has been inflicted. In a trial which took place at the Lent assizes, in 1765, at Kingston, in Surrey, the prisoner, JOHN STRINGER, was condemned, on the evidence of a young surgeon, that some marks on the corpse had somewhat of the appearance of mortification caused by bruises. Mr. CARSAN, an eminent surgeon, who had previously examined the body, from mere curiosity, on hearing of STRINGER'S conviction, applied to the Archbishop of Canterbury, who obtained a respite from Baron SMYTHE, who tried the cause, and afterwards a pardon from the king, on the conviction that the marks on the body were not the consequence of blows or any injury.

Sudden death may be caused by ruptures of vessels in the brain, or either viscera of the lungs or the abdomen, as in apoplexy and other diseases. It is of importance to

distinguish these from effusions which are the consequence of blows and wounds.

Having settled these general preliminaries, let us now examine the various causes of sudden death, and the manner of determining, from the inspection of the body, to which of these the death of a person found dead is to be attributed.

Syncope is that state of the body in which there is a suspension of the action of the heart and arteries, accompanied by an apparent cessation of the function of the respiratory organs, sensation, and volition. In ordinary fainting, some feeble action of the heart is still perceptible, although not sufficient to render any pulsation evident in the arteries, at the wrist, and at any moderate distance from the heart. If the respiration have ceased, and the heart no longer pulsates, there is little probability that life can be restored; but the action of the heart may be arrested by many causes, and be again roused to renewed action, if too long a period do not supervene before means are resorted to for effecting this. I once witnessed a very alarming case of syncope, which would, in all probability, have proved fatal if immediate aid had not been procured, or if any previous state of disease of the heart had been present. It arose from tight lacing:—

I was sent for to see a young lady, who had dropped from her chair at a dinner-table, and was supposed to be dead. I found her lying upon a sofa, with several ladies standing around in tears. She was apparently dead, for I could detect no symptoms of respiration; none of circulation, either at the wrists or the carotids. On placing my hand over the region of the heart, I thought that the boddice was extremely tightly laced, and I instantly conjectured that the syncope depended on that cause. I took, therefore, a penknife, and instantly ripped up the whole, in a line from the tucker downwards; the dress immediately flew asunder with a spring, as if the parchment of an overstrung drum had been divided, and, in a few seconds, my patient gave an imperfect sob; and, by means of friction, and the application of stimulants, respiration was rapidly restored.

Now, if this young lady had not left her dressing-room, and no assistance had been near, and she had died, nothing would have been more difficult than to have a given correct notion of the cause of death.

In instances where, as I have said, the heart, or its vessels, has been previously labouring under some organic affection, the syncope induced by violent passions of the mind, or by sudden shocks, may terminate fatally, from rupture of the heart.

In the case of the celebrated JOHN HUNTER, who died from a fit of passion, the valves of the heart had long been in a state of disease. A case related by Dr. VALENTINE MOTT, in the "Transactions of the Physico-Medical Society of New York," is illustrative also of this fact. A robust, plethoric female of twenty-two, addicted to intemperate habits, was deserted by a man to whom she was engaged to be married, in consequence of which her mind became deeply affected. She supped on the preceding night, retired to rest as usual, and was found dead, next morning, in bed. She lay in a bent, recumbent position, as if in a profound sleep, with neither countenance nor limbs in the least distorted. On dissection, a breach was found at the aortic ventricle, from which much effused blood, which gorged the pericardium, had issued. The parietes of the ventricle around the ruptured part were much thicker than in the natural state, and on a close examination a very sensible fluctuation was perceived, to the extent of an inch, on one side of it, from which flocculi, of a cheese-like substance, were discharged on pressure; the pericardium, also, presented traces of inflammation. This disease would not, most probably, have terminated so suddenly, but for the affection of the mind.

A very interesting paper on a peculiar variety of asphyxia, of which M. CHEVALIER is the author, termed "Idiopatheca," is contained in the first volume of the "Medico-Chirurgical Transactions," and has much connexion with this subject.

It has ever been contended, by many able pathologists, that such a rupture may happen in a sound state of the organ. A most excellent illustration of this is given by Dr. FINHER.*

In dissection, therefore, of cases of sudden death from rupture of the heart, it is of the first importance to ascertain the previous condition of that organ; and this is of the utmost moment in many questions connected with life insurance; for, in the event of previous disease being detected in the aorta, an objection may be raised by insurers, on the score of a false certificate of warranty of health, for it cannot be denied that such a state of the heart, or large vessels, tends greatly to shorten life; and it is only upon the truth of the warranty that the validity of the contract depends. Again, it is of equal importance in cases of supposed homicide. Thus, two men quarrel, and during the scuffle the one hits the other a blow on the chest, after which he immediately falls down and dies. On dissection the heart is found ruptured; it becomes, then, an important question,—In what condition was the organ previous to the quarrel taking place? Because, if it were in such a state that any strong mental emotion would endanger life, the condemnation of the ac-

* See translation from "Journal Pratischen Heilkunde," Dec. 1817, in the "Med. Repository," vol. ii. p. 422.

cused person would be an act of flagrant injustice; but, in what manner can this be determined unless by careful dissection? What are we to look for? The reply is, Disease, either in the substance of the heart, or in the coats of the large arterial trunks, or in the valves of the cavities.

A person, in a fit of passion, is pushed down, and dies suddenly; on opening the body, no blood is found effused in the pericardium, but there is an unusual enlargement and thickening in the muscular substance of the heart, and much blood is found effused in the brain. This might, erroneously, be ascribed to the fall; whereas it *is* more likely to have arisen from the impetus impressed on the blood by such a state of the heart, during the excitement of anger, being greater than the resistance of the vessels of the brain can sustain. In such a case, the arterial system may be said to be overloaded on every occasional excitement affecting the heart; the venous system cannot return the blood poured into it, thence the arteries become gradually overloaded and weakened, and, at length, on a sudden excitement, some one or other of them gives way. In such a case, the person who caused the fall which preceded death, must be held guiltless. Instances of sudden death have occurred from no other obvious cause than the heart being overloaded with fat. Bonnet ascribes the sudden death of a very fat man to this cause: it causes suffocation. Thence this state of the heart must not be overlooked.

The sero-fibrous parts of the heart may be ossified by earthy matter deposited in the fibrous tissue, a fact which can be known only by removing the internal membrane of the organ; or the earthy matter may be deposited in a kind of irregular crystallizations, forming unequal surfaces, covered also by the internal membrane of the heart. Indurations and ossifications of the whitish bands surrounding the ventriculo-auricular apertures are also to be sought for; as well as cartilaginous and ossified spots of both the mitral and semilunar valves, preventing the due transmission of blood from the cavities, and thence favouring rupture, on its sudden accumulation in them; it is often in the early stage of these changes in the valves that paroxysms of passion are instantly fatal.

Sudden death may also take place in aneurysms of the aorta, either from internal hæmorrhage, from bursting of the aneurysmal sac; or from apoplexy, owing to compression of the aneurysmal tumour, diminishing the area of the vena cava superior, when the aorta, in the superior part of the chest, is the seat of the disease.

Scarcely any age, *excepting infancy*, and no sex, is exempt from these affections of the heart; and the evil extends, too often, in so imperceptible a manner, that it is not known until the fatal event displays itself. When this involves a medico-legal inquiry, nothing is more justly disgraceful to a medical man than ignorance as to the nature of the appearances which dissection is calculated to display, and a consequent erroneously decision respecting the real cause of death.

LECTURES
ON THE
PHYSIOLOGY OF THE NERVOUS SYSTEM,

DELIVERED IN 1836, IN THE COLLEGE OF FRANCE.

By M. MAGENDIE.

Lecture XVII.

Vision.—*Summary of facts established, that the optic and the fifth pair of nerves, conjointly govern the function of vision. Speedy death of rabbits under experiment. Various changes in the visual apparatus, from experiments. Important connections of the optic nerve with different parts of the brain. Insensibility of the face produced by division of the fifth pair. Effect of wounding the pons varolii in a rabbit. Both the optic and the fifth nerves essential for vision.*

Gentlemen:—In the course of our last lecture we commenced a series of experiments on the sense of vision, and the first question we proposed was that of determining whether the optic nerve was actually the agent of vision or not. We examined the different parts of the nervous centres with which it is in communication, and mentioned, though accidentally, the remarkable phenomena of decussation, which, if we except a few spinal nerves, belongs exclusively to the second pair. The first result that we obtained on dividing the optic nerve across, was dilatation of the pupils, and the total destruction of their power of vision. This preliminary point being established, we were led to another question, viz.,—Is the optic nerve the sole agent of vision, or is it assisted in the accomplishment of that function by any other nerve? For this purpose we divided the fifth pair of nerves, and you saw how the animal either became equally blind, or testified the existence of only a very slight degree of sensibility when a powerful ray of light was suddenly shot upon the pupil; yet here the optic nerves existed in the most perfect state of integrity. The above-mentioned experiments, then, justified us in concluding, that loss of vision may be equally produced by injury, or destruction, of the optic, or the fifth pair of nerves, indifferently. Finally, I mentioned to you how one or two

physiologists endeavoured to establish that the fifth nerve might actually become, in some instances, a nerve of vision. Thus, some years back, M. SERRES discovered a branch of the fifth pair which is distributed to the eye, and this anatomical arrangement harmonises perfectly with the result of my experiments; however, the example of the mole is not very favourable to this doctrine, for, on many occasions, I have removed the little dark points which anatomists consider to be the globes of the eye in this animal, notwithstanding which I observed that it appeared to be in no way inconvenienced, or embarrassed, by the loss; hence the conclusion to which I come, that this little animal governs its motion by the senses of smell and touch, and not by that of vision. Let us now pass to a more practical subject, the examination of the heads of the different animals, all of which have died in consequence of the severe experimental operations which we lately performed on them. Here is the head of the rabbit in which, if you remember, one or two days back, we effected the division of the fifth pair of nerves, producing nearly complete blindness, and subsequent inflammation and ulceration of the cornea. This animal is the one which presented the curious spectacle that you witnessed when it progressed with the nose constantly applied against the ground, as if feeling its way.—(LANCET, March 25, page 11.)

Before we proceed to examine the body, I should tell you that rabbits frequently die in consequence of the experiments which we perform on them, without our being able to discover any immediate or manifest cause of death; in the present instance, the lesion of the brain is, as you see, very insignificant; the most remarkable changes which the eye has undergone are, alteration of the humours, and discolouration of the crystalline lens. Here is a second rabbit, which died a few days after the division of the fifth pair of nerves; the section of the trunk of one nerve had been incompletely performed, and hence you understand why the functions of the fifth pair could have continued in a more or less imperfect manner; this apparent exception did not depend, as some physiologists would maintain, on the ends of the nerves being brought again into contact after their division, but on the simple fact which you see here before you, that the section did not comprehend the whole thickness of the trunk of the nerve. Finally, you may here examine the eyes and visual apparatus of a bird, in which one of the eyeballs had been suddenly destroyed by a contusion a few days ago. The object of this experiment was to determine the changes which might take place in the nerves and cerebral masses connected with the organ of vision, after the external apparatus had been destroyed; look here, and you will see evident marks of atrophy occupying that portion of the optic nerve which corresponds with the injured eye, which is placed in front of the decussation, and extending beyond this latter point, not to the posterior portion of the nerve on the same side, but to that on the opposite one. Even one of the optic tubercles is considerably smaller than the other.

I think it needless to multiply experiments of this kind. If you be not convinced by the evidence of the facts now laid before you, I can have little hope of being able to furnish a clearer demonstration of what I advance; I shall, therefore, merely add, that a considerable period has been allowed to elapse between the time at which the experiments were made, and the present examination, in order that the results on the nervous system might be more evidently marked. Let us now return to some of the questions with which we were occupied at the close of our last lecture.

I said, that if we were to rely entirely on anatomical considerations, we should find ourselves compelled to admit, that the optic nerve is the sole agent of vision; but in speaking of the origin of that nerve, I mentioned how it was connected with several very distinct parts of the brain, and that explains, to a certain degree, the varied phenomena which take place during the exercise of the sense of seeing. Thus, when we receive the impression of light, we are able at once to determine whether the luminous body be near us, or removed to a considerable distance. Here there is evidently something more than a pure and simple act of sensation; there is an instinct act of the intelligence, so immediately following the impression as to become confounded with it, and enabling us to judge of the distance at which the external body is placed. This is repeated, more or less distinctly, at every act of the visual apparatus, and thus we may say that vision is never exercised purely as a sense, but comprehends more or less intellectual action in its *ensemble*. The observation which I have just made, is not one relating to an isolated fact, but more closely connected than might at first sight appear with the immediate subject of our studies. But let us turn to the animal before us.

[Here the professor repeated, on a young rabbit, the experiments which he had already performed, during the two last lectures, on the fifth pair of nerves. He first divided the trunk of the nerve on one side, and after having irritated the nostrils, the conjunctiva, and the other parts of the face, he assured himself that the nerve was completely divided across, by the perfect loss of sensibility. He then directed the attention of the pupils to the fact, that the iris was

excessively contracted, and remarked, that in the dog, on the contrary, and in man, division of the same nerve is followed by relaxation of the iris, and consequent dilatation of the pupil. After having again demonstrated the loss of sensibility on the side at which the fifth nerve had been destroyed, and the evident sensibility on the opposite side of the head, M. MAGENDIE proceeded to divide the uninjured nerve. This operation was followed by an immediate loss of sensibility on that side; the head of the rabbit sank down on the table, as in a former instance; progression was slow and difficult, and the animal evidently guided its steps by the sense of touch, exercised with the nose; the movement of the anterior extremities seemed somewhat less free than that of the posterior. On again irritating the conjunctiva with the point of a blunt instrument, he thought he perceived, from a slight contraction of the eyelids, that the mucous membrane retained a portion of its sensibility. This induced the lecturer to think that the trunk of the nerve was imperfectly divided, and to make several fresh attempts at completing the experiment. In the midst of these manœuvres a violent hæmorrhage occurred, and the professor exclaimed, "An accident has taken place. I find that I have divided one of the cavernous sinuses; a quantity of blood is effused on the brain, and you witness its effects in the convulsions with which the animal has been just seized; let us try and save its life, by applying the trepan. I have now removed a portion of bone, but the operation is useless, as you see. The convulsions acquire increased intensity, and the animal dies. Indeed, I now see that the carotid artery has been divided." The professor now had another rabbit brought before him, and recommenced the operation; but the result, unfortunately, was exactly the same. Some large vessel was divided, and the little animal died in convulsions. A third rabbit was then brought, and the instant the knife touched the fifth nerve, the animal exhibited marks of excessive suffering. The division of the trunk was this time effected without any injury to the great vessels, and was followed by immediate loss of sensibility on that side of the face. The lecturer then made preparations for dividing the nerve on the opposite side of the head, but it would appear that he strongly expected the occurrence of a hemorrhage, for instead of operating on the animal before him, he had a young dog brought, of from six weeks to two months old. "The skull of this little animal," said he, "cannot have attained a very great degree of density, and our operation will consequently be more easy." The skull being opened, and the instrument introduced, a few lateral motions were made, but it was easy to see that the section of the nerve was incomplete, for the conjunctiva on the side corresponding with the nerve divided, retained its sensibility. A second attempt was crowned with more success, and the sensibility of the face, on one side of the animal's body, disappeared in the most complete manner. The Professor then proceeded to divide the nerve on the opposite side, announcing, that should the section be complete, the lower jaw would instantly hang, and the tongue protrude, &c., an assertion in which he was perfectly borne out, by the results of the experiment. He then resumed in the following manner:—]

Now, to convince you more clearly of the existence of these phenomena, let us see whether the dog will remain insensible to every species of irritation, or not. I now pass a flask, containing the strongest ammonia, under the animal's nose, and even hold it there for some time, without exciting any mark of sensibility. The dog, as you see, seems to be quite unconscious of its presence; when I pinch the tongue smartly, he does not appear to feel it; that organ remains perfectly passive, yet all the other nervous branches which are distributed to the tongue remain in tact. I should have wished to continue my experiments on this dog, but it is impossible; the animal is now in a state of severe suffering, and his whole economy is troubled to a degree that would render all our experiments inconclusive. However, as our last experiment turned out so well, let us now return to our little rabbit, and endeavour to divide the fifth nerve on the right side, the one which we left before untouched.

[This was now done without any accident occurring; but though all sensibility seemed lost, the animal did not droop its head, as on former occasions, and the Professor made several vain attempts to complete the division of the nerve. He exposed the nostrils to the action of ammonia, and found that some sensibility, though in a feeble degree, still existed. The animal ran forward towards the edge of the table, which he did not seem to perceive with the eye; but the moment his nose had passed the edge, he

was conscious of the danger, and stopped short. M. MAGENDIE said, that during the last few days his hand had been less dexterous than usual; besides that, the experiment was a very difficult one. The Professor immediately ordered a fourth rabbit to be placed before him, and while the table was strewed with the dead or dying carcasses of a dog and three rabbits, he commenced dividing the trunk of the fifth nerve, within the cranium, on both sides. While doing so, however, he unfortunately wounded the pons varolii, near its junction with the peduncles of the cerebellum. In an instant the animal's eyes assumed a most peculiar aspect; one was directed strongly upwards, the other downwards; at the same time the rabbit lay down on its side, and commenced rotating continually on an axis, a movement which the Professor remarked, was constantly observed to follow a lesion of that portion of the brain. He then said, "I propose making a series of dissections, with the object of discovering the difference which presents itself between the movements of the head in rabbits and in dogs, after division of the fifth pair of nerves; it depends, in all probability, on some peculiar disposition of the nerves which are distributed to the muscles of the jaw."]

To resume, then, Gentlemen, and review what has been said. Whenever the fifth pair of nerves is completely divided on both sides of the body, the sense of vision is totally lost. Various other phenomena, such as loss of the sense of smell, &c., present themselves; but we have already sufficiently dwelt on these latter.

Do not mistake me, when I say that loss of vision accompanies destruction of the fifth pair of nerves; I would not mean to conclude from this coincidence, that the fifth pair is the sole agent of the sense of seeing: far from it. The anatomical disposition of the optic nerve, and the experiments which you witnessed on that nerve, are sufficient to demonstrate the contrary. You saw how the sense of smelling persisted after division of the olfactory nerves, a result which induced us to conclude, that they receive their sensibility from the fifth pair; but this does not occur with the optic nerves, for, when the latter are divided, vision is completely lost, although the fifth pair remains intact. The integrity of both the optic and the fifth nerves, then, is indispensably necessary for the exercise of vision, which is lost whenever either of these nerves is separately destroyed. This is a most interesting point in the history of physiology, and, as I have not yet exhausted my observations on the subject, I intend to recur to it at our next lecture.

CURE OF PHTHISIS PULMONALIS

BY THE INHALATION OF

CARBURETTED HYDROGEN GAS.

(PURIFIED COAL GAS.)

To the Editor of THE LANCET.

SIR:—Ever since I discovered, by direct experiments, that arterial and venal blood contain certain gases, I have been impressed with the opinion, that the inhalation of gases, differing in their nature from those which enter into the composition of our atmosphere, might be of essential service in the cure of some of our numerous diseases.

We are aware that our pitmen, or coal-heavers, live, without inconvenience, or detriment to health, in the midst of explosive atmospheres of fire-damp, or explosive mixtures of light carburetted hydrogen gas, and of atmospherical air. We know that persons affected with scrofulous diseases, and phthisis pulmonalis, very frequently receive benefit from a course of mild sulphurous mineral waters, into the composition of which a considerable portion of carburetted hydrogen gas enters.

Some time ago I gave my opinion, in the pages of THE LANCET, that our pitmen are not only a healthy race, but also that they are peculiarly exempt from pulmonary consumption, and daily experience convinces me that I am correct in these views.

Some months ago I directed a gasometer, of an appropriate form, to be constructed, the suspended gass-holder of which is flint-glass, with the cubic inches so engraved upon it that I can readily, and most accurately, read off the quantity of gaseous mixtures which any individual may take in at each inspiration. This glass gas-holder contains 250 cubic inches. To this gasometer a stop-cock and mouth-piece are appended, and I can readily throw into it any portion of gases which I may require for the purpose of inhalation.

It is needful, in all cases, to avail ourselves of the most convenient substances which, *cæteris paribus*, we may find suited to our purpose. I, therefore, made use of our common street coal gas, freed from ammoniacal substances, by careful ablution with pure water; and, afterwards, I agitated this carburetted hydrogen gas in the carbonate of lead, precipitated from a cold solution of the acetate, by carbonate

of ammmonia, washed with water, and mixed with a little of that liquid, into the consistence of cream, by which means it was effectually freed from sulphuretted hydrogen gas. I conveyed into the gasometer equal volumes of this gas and atmospheric air, and allowed them to stand for some time, in order that they might become mixed in the gasometer. I then tried this mixture myself, very freely, and found no inconvenience whatever from inhaling it.

Being satisfied that this mixture was not deleterious, and that no injury could arise from its use in the process of inhalation, I charged the gasometer with equal quantities of this purified coal gas and atmospherical air, and had it conveyed to the house of a patient, Ann Robinson, in Dunning-street, Bishopwearmouth. This person had, for some time, laboured under phthisis pulmonalis; her pulse was jerking, frequent, and full; the cheeks showed the hectic tint. She had for some weeks been liable to nocturnal perspiration, particularly upon the bust. The catamenia had ceased for some time; the bowels were irregular in their action, and the cough brought up heavy, tenacious, and offensive sputa. In a word, she was oppressed by disease and debility. Her occupation was that of, what is called in our town, a "coney-cutter," or a cutter of the down from the skins of rabbits. Her case appeared to me to be hopeless.

She commenced, under my inspection, to inhale the above-mentioned mixture, commencing with one inspiration of twelve cubic inches of the gaseous mixture, four times a day. On the next day she took two inspirations, of twelve cubic inches, four times a day. On the third day, three inspirations of the same quantity of the gaseous mixture, four times a day; and so proceeded, until, upon the sixth day, she inhaled six times, at four periods a day.

I then commenced the augmentation of the dose of the mixture of gases, in the ratio of one cubic inch per diem, until twenty cubic inches were inhaled, six times, at four stated periods, from her rising in the morning until her hour of going to sleep at night.

She continued to inhale, in this manner, until all the symptoms of the disease were removed, which required a fortnight longer. She has now been able to work at her business for some weeks; and she informs me, that, excepting a certain susceptibility to cold and debility, from hard work, she has no cause for complaint. I need scarcely remark, that when she was proceeding with the inhalation, I cautioned her to keep the gasometer in a secure place, so that it might not be upset, and not to permit fire, or lighted candles, to be near her when she inhaled.

I hope that this plan may be found to be serviceable, as a therapeutic agent, in removing, in some degree, the mortality which this disease produces, not only yearly, but daily.

Being pinched for time, I write, as usual, *currente calamo*. I remain, Sir, your obedient servant,

W. Reid Clanny.

Sunderland, April 15, 1837.

EXTRACT FROM A LECTURE ON

UTERINE HÆMORRHAGE AFTER DELIVERY,

By W. A. Walford, *Esq., Lecturer on Midwifery at the Aldersgate School of Medicine.*

The January number of the *British and Foreign Medical Quarterly Review* contains a summary of Dr. Hugh Ley's views on bandaging the abdomen after delivery; and, as they are *ex cathedra*, they may not be without their influence upon those who prefer authority to reason, and are willing to be spared the trouble of reflection. That gentleman sets forth, that the compress and bandage are of value only in the form of hæmorrhage described by Dr. Gooch, as occurring from the re-expansion of the uterus after the expulsion of the placenta; and as the dilated cavity is of great capacity, there is not much, indeed, not *necessarily* any, effusion of blood externally, a circumstance which is calculated to lull the practitioner into a false sense of security, and to leave the patient obnoxious to all the mischiefs of flooding, without suggesting the nature of the evil, and its mode of relief. The inference that pressure is adapted to *this* form of hæmorrhage *only*, is an error which experience might be left to decide, so far as regards the question *per se*; but the value of pressure in practice is too great to make it desirable to leave the fact to be determined by a tentative process merely, whether the *sole* adequate and efficient remedy for flooding *after delivery*, upon whatever cause depending, should be restricted to one form of flooding. My object is not merely to protest against the dogma which would limit the usefulness of the compress, but also to except to the proceeding recommended by that excellent and philosophical practitioner, Dr. Gooch, for the arrest of hæmorrhage after delivery, and to impress upon you the paramount duty of employing measures which, as they must inevitably succeed, should invariably be adopted.

It ought not to be forgotten, that the flooding referred to by Dr. H. Ley, was

ascribed by Dr. Gooch to the force of the circulation overcoming the contraction of the vessels by the normal contraction of the uterus; and for this condition he prescribed, and succeeded in averting the recurrence of flooding in succeeding deliveries, by bloodletting and an antiphlogistic regimen. Dr. Gooch taught, as the *best* mode of treatment, the introduction of one hand into the uterus, and applying the other to the abdomen, thus compressing between them that portion of the uterus to which the placenta was attached, *if* it so happened that the placenta had been attached to the *anterior* wall of the organ. As this cannot be expected to be always the condition, in the cases of its absence he *hoped* for the *contingent* advantage of the presence of the hand stimulating the uterus to contract. I have always been surprised that Dr. Gooch's admirable sagacity should have deserted him in this state of things, which it would seem to have done by his rejecting a plan of treatment which is so obviously appropriate, and justified by experience.

More women die from hæmorrhage after delivery than it would be creditable to the art of midwifery to admit; and however rarely it may be asserted that fatal cases occur, they may be justly considered as evitable, and therefore a reproach. Nothing could be easier than to show, that the fatal terminations follow the neglect of a mode of treatment which is of unfailing success, and which, therefore, should supersede all others, some of which are of very limited service, some of very questionable advantage, and others positively worthless. It will be evident, without appeals to experience, that when great loss of blood is being sustained, in consequence of the absence of contraction, or from insufficient contraction of the uterus, that the issue must be doubtful, because the loss of blood can only be absolutely prevented by mechanically closing the bleeding orifices; for, who would rely on the syncope, which might not occur until the woman had already lost a dangerous, if not a fatal, amount of blood? The placenta being expelled, or withdrawn, flooding may be commanded with as much ease and certainty as if the source were a divided artery; and the patient may be left with safety (as regards the recurrence of the hæmorrhage), while these advantages are wholly irrespective of the *part* of the uterus to which the placenta may have been attached. This power is of great value on other grounds, namely, the economy of time, and the perfect confidence of safety with which we can leave a patient, the exigencies of whose condition might otherwise demand the sacrifice of much time; for in no case can a man, who is conversant with formidable flooding, conscientiously leave any patient in less than two hours. It is quite true, that in a very large majority of cases this will be, apparently, a needless precaution, or an impolitic waste of time. This sacrifice of our capital and comfort, however, is due to prudence and humanity, unless means can be resorted to which are necessarily preventive of the occurrence of flooding, and, consequently, of the necessity for procuring prompt assistance, which will but too often be afforded by those who may not be slow to ascribe the accident to your precipitate departure, or to your want of skill. You will sometimes meet with cases wherein the uterus appears to have lost its excitability entirely, or to a great extent. Although this may be rationally expected oftener after injuriously protracted labours, and from other causes of exhaustion, yet you will be surprised, occasionally, by observing that the inertia of the uterus is not in a direct ratio with the prostration of the vital powers. In some of these cases it will not respond to any stimulus. I remember a case in which it was so little contracted, that, on removing it after death, its capacity was equal to the contents of a gallon-and-a-half measure. The unfortunate woman,—poor, and, *therefore*, ill fed, overworked, and harshly treated,—was suffered to endure labour too long; she was delivered, by the forceps, of a living child, but the uterus was unequal to the expulsion of the placenta; indeed, Burn's expression, "it was almost moribund," well applied to this condition. The culpable impatience of the practitioner induced him to pull the funis, in the absence of uterine contraction; partial separation of the placenta was the natural consequence, and of *that*, considerable hæmorrhage. As all attempts to restrain flooding while the placenta remains, are, and must be, fruitless, that structure was completely detached and removed. The woman would have died in a few seconds if the contraction of the uterus had been expected, and relied upon from the mere introduction of the hand, and external counter pressure, for, the somewhat painful process of separating, and the withdrawal of the placenta, failed to provoke uterine contraction in any degree, and the placenta was attached to the *posterior* wall of the uterus. *Efficient* pressure, applied in a mode presently to be described, at once terminated the flooding, but the circulation had sustained a loss which left it unable to "carry on the business of life;" and, the means of transfusion not being at hand, she died within an hour.

This case will illustrate the practice which I, in common with many others, always adopt, and which I exhort you invariably to imitate, and from which I hope that nothing, however plausible, will divert you. In demurring to a distinguished authority, it is incumbent to give a reason; and, from less than has been now urged, it

is clear that Dr. Gooch's mode of applying pressure *might* (by a possibility in nowise remote), fail to preserve the patient's life; whereas, *efficient* pressure, resorted to *before* the loss of a fatal quantity of blood, could not fail to avert the catastrophe. I repeat, that the *compress and bandage* ought to supersede *all* other means for restraining hæmorrhage, *after* the complete evacuation of the uterus, and that its careful application will invariably *prevent* the occurrence of a calamity which is to be deplored on the woman's account, and on grounds of a less high morality, still a warrantable selfishness, to be deprecated on your own. Doubtless the practice demands discrimination; it should not be so stringently employed when prophylactic as when curative. It has been sought to inspire you with terrors of "permanent obliquity," or "prolapsion of the uterus," from the use of the compress. If these apprehensions be sincerely felt, they are idle; if feigned, they are what I beg to be excused designating; in either case they are unworthy of your regard. Understand that the effects essentially depend upon the *mode* of application, and that the mere bandaging of the abdomen is of no use in uterine hæmorrhage, even if a *yielding* compress be added. The best compress may be made of a pillow, tightly rolled into a hard pad, and its consistency maintained by winding round it three or four yards of cord, or strong tape. I take care to be always provided with this compress, by thus preparing the pillow customarily used to prevent the contact of the patient's knees during labour. I have lately substituted for the sheet, or table-cloth, adapted as a bandage, a strong cotton webbing, three inches wide, attached to a large screw tourniquet, four inches wide. The compress, being placed immediately over the uterus, is pressed on, to the degree required to arrest the hæmorrhage, which it does, by compelling the apposition of the parietes of the uterus. The roller is then passed round the pelvis, and its tail end through the buckle of the instrument, and then tightened sufficiently to retain the compress on the abdomen, with the force employed by the hands, which are not to be removed from their duty until that object is effected. If, from haste, or inadvertence, some of the required pressure be remitted, the screw of the tourniquet gives you the command of any compensating amount that may be needed, while, on the other hand, the pressure can be mitigated as gradually, or as suddenly, as you deem expedient, and this without disturbance of the patient, or removal of the apparatus. Adjusted thus far, the attendants may be confided in to tighten the roller, or to relax it, according as your judgment may induce you to instruct them.

This modification of the compress and bandage gives us complete controul over uterine hæmorrhage *after* delivery of the child and placenta; and, provided always that we be present at the commencement of the mischief, makes the patient's safety absolute, which vast advantage cannot be predicated of any other mode of treatment. I have long since been convinced that we ought not to lose a case of flooding under the described circumstances, for, with the before-mentioned conditions, the patient's death is always evitable.

ON THE CONNEXION BETWEEN

HECTIC FEVER,

AND

SUPPURATION AND THE ABSORPTION* OF PUS.

By C. W. Edwards, *Esq., Surgeon, Dublin.*

How far is hectic fever connected with suppuration, and the absorption of pus? The relation between hectic and suppuration is generally denied, though many distinguished men have acknowledged the possible existence of a relation (indefinite in character) between them. Thus, Dr. Thompson, in his work on inflammation, "cannot induce himself to believe" but that hectic is connected, if not with absorption, at least with the formation of pus. Mr Burns, also, in his "Principles of Surgery," "assumes" views which are somewhat consentaneous with those which I shall attempt to maintain; yet he undertakes not to combat a single difficulty which is repugnant to his opinion.

In the conclusion of Hunter (regarded abstractedly), that hectic is not the *effect* of suppuration or absorption, I perfectly acquiesce; but to the arguments in support of that opinion I must object, because they involve difficulties which are adverse to my views, with which the conclusion of Mr. Hunter, without any *vis consequentiæ*, would yet be perfectly compatible; and, further, because they are those which are generally urged to show that hectic has *no relation whatever* to suppuration, a thing which could not be inferred, even supposing the conclusion of Mr. Hunter to be accurately deduced; and, finally, because of the *nature* of the difficulties, which I hope to show to be partly unnecessary. I, therefore, proceed to show the inconclusiveness of these arguments.

If hectic be produced by absorption, Mr. Hunter does not see how any patient who has a large sore, could possibly escape; he also adduces instances of abscesses forming matter, for months, without hectic resulting. It is also remarked, by Mr. S.

* See Lancet, No. 703, p. 749.

Cooper, that pus of the worst quality may be absorbed, without producing a single hectic symptom. Hence is inferred the conclusion, that it is not caused by absorption. But that which may be an undoubted effect, under certain circumstances, is not necessarily produced in every case. Ptyalism, for instance, is, undoubtedly, an effect of mercury, although the latter may fail to produce it, even when pushed to a hazardous extent.

Again, Sir Astley Cooper amputated the limb of a hectic patient, and found no matter whatever formed there. In this case we may ask, Did this patient recover? Sir Astley does not inform us. Nor yet would his recovery establish the fact, as the hectic might have arisen from disease elsewhere, and yet the operation might have excited that salutary action which Mr. Hunter describes as being diametrically opposite to hectic, and tending to restore the constitution to its normal condition; or, the constitution, being disburthened of a certain amount of disease, might have been capable of supporting itself under the remainder. Mr. Hunter argues, that pus has been found in the inside of veins, where it cannot fail to get into the circulation, yet that the resulting fever has not been hectic. This only proves a *different fever* to have been produced, but it is evident that there may be different effects of the same cause in different instances, from different modifications.

Mr. Hunter further argues, that hectic does not occur until the reparatory actions of a part have commenced, and, accordingly, he adduces the case of psoas abscess, which is usually unaccompanied by this fever until it be opened; but that hectic is not necessarily attached to this condition is sufficiently attested by a case communicated to me by an intelligent and experienced surgeon, Mr. Taggart, of this city.

A boy exhibited a most decided form of hectic *during the formation*, and *previous to the puncturing*, of a psoas abscess; but *after it was punctured*, the sweat and diarrhœa ceased, as by a charm; the pulse was restored to its natural standard, and although matter continued to be discharged, in pints, daily, the patient rapidly recovered. It may be argued that this case, in addition to disproving Mr. Hunter's opinion, would also alienate hectic from suppuration. Yes, from the latter, *as a cause*.

But hectic may occur where there is no suppuration, and, consequently, where no absorption of pus can take place. This is deemed to be an unquestionable proof that no connexion exists; yet it does not destroy the possible relation of two events (cause and effect) when they do co-exist, much less a *subordinate* relation, since precisely similar effects may be produced by causes which are totally different; nay, which are diametrically opposite. Although we can produce ptyalism without mercury, yet when the former succeeds the latter, does its production from other sources render it a less indubitable effect? Hectic, therefore, without suppuration, or absorption, and accompanying the miliary tubercle, does not necessarily imply that it is not the effect of suppuration, when existing.

Having dwelt on the inconclusiveness of such arguments, I shall place a series of facts in juxta-position, and endeavour to solve the difficulties of the subject:—

1st. From hectic usually not occurring until after the opening of a chronic abscess, it is evidently not referable to absorption *as a cause*.

2ndly. As it may occur at periods which are variously remote from the opening of the abscess, it is clear that it is not effected by the mere opening.

3rdly. The case communicated by Mr. Taggart, proves that it depends not on profuse discharge, as in that instance hectic occurred during the formation of the abscess, and ceased immediately after it was punctured, even in spite of the most profuse daily discharge, and at the period when, as Mr. Hunter would say, the constitution was to make its efforts towards a cure. I am well aware of Mr. Hunter's statement, that at this period there may be no hectic, if the constitution be equal to the task. In this case, however, hectic shall not exist as an accompaniment of any suppurative stage; and, therefore, my previous objection is not invalidated, that as hectic may anticipate the period when the reparatory action is demanded, it cannot, consequently, be the necessary representative fever of this condition.

With the general result from the three above-mentioned facts, viz., that hectic is not confined to any particular period of the suppurative process, I shall now place, in juxta-position, the statement, that almost every case of "surgical hectic," so called, is, at least, accompanied by *some* stage of suppuration. So fully admitted is this, that in every surgical book we find hectic treated of under the article "suppuration." Even Cullen, finding himself embarrassed by the frequent existence of purulency itself, without hectic, has recourse to "a *vitiated* purulency," to explain their so frequent co-existence, of which latter his followers, being equally conscious, have even designated the affection "*suppurative* fever."

With the connexion of pus and hectic, so strongly were the ancient surgeons impressed, as even to attribute noxious qualities to this product; hence, also, the use of sponge to remove the matter, and the origin of the antiseptic treatment.

Nor shall I confine myself to these surgical cases, so called, or even except the hectic of tubercular phthisis, which I have

frequently observed to be accompanied by a disposition to the formation of abscess in different parts of the body. These suppurations, therefore, so far as an almost constant phenomenon is of importance, must be far different, indeed, from mere coincidences. Nor yet are they causes. Hence it *must* be inferred, that they are *indices*, or local manifestations of the real cause. And herein do I censure the oversight of pathologists, who, from the absence of the relation of cause and effect, which I willingly concede, have thence erroneously concluded that of *all other* relations.

Do, then, these *indices* manifest any particular morbid condition of the system, which is adequate to produce hectic? and, secondly, is their absence, or their variation, when present, compatible with their being truly representatives of this condition?

Let us investigate the former question under an aspect which would seem, above all others, to alienate hectic from suppuration, viz., when hectic accompanies the crude pulmonary tubercle.

(*To be concluded.*)

ONE YEAR'S CLINIC OF

DISEASES OF THE EYE,

TREATED BY PROFESSOR ROSAS, IN THE

UNIVERSITY OF VIENNA.

The Medical Annual of the Austrian States, which is edited by Barons Stifft and Raimann, contains, from time to time, some valuable statistical reviews of the scientific proceedings in the medical institutions which are scattered throughout the vast provinces that belong to the domain of Austria. Of these institutions, the most celebrated and valuable are the Opthalmological Hospital at Vienna, and the great midwifery institution of the same capital, which may rival any others in Europe for the opportunities of instruction which they afford in the two important branches of medicine severally practised in them. We have already given our readers an analysis of the last opthalmological report published by Professor Rosas; for in Germany the "heads" of the profession are not, from being too busy in private affairs, at the *tail* of *science*, and too dignified to communicate the results of their experience and observation. We now examine that for the year 1834, the last yet published.

The number of patients treated in that year at the Eye Hospital, amounted to 1,132; or 120 house, and 1,012 external patients. Amongst the former we may notice the following interesting case:—

Cancer of the Eyelid cured without Operation.—This occurred in a patient thirty-three years of age, who, at the age of twenty-three, had been afflicted with itch, of which, however, he was speedily cured. From that time he suffered under frequent attacks of opthalmia, and, at the age of thirty, from a violent inflammation of the eyelids. This latter attack was succeeded by the development of a tumour at the external canthus of the left eye, which gradually increased in volume and density, became of a dark red colour, painful, and finally degenerated into a cancerous ulcer. At the time of the patient's reception into the hospital, the ulcer was one inch in breadth, and three-quarters of an inch in length. The patient was immediately given the following pills:—Extract of *conium* half a drachm; *powder of conium*, sufficient to make a mass, from which, form pills of two grains each. Cons. of the powder of the seeds of club-moss, S. A pill was given, morning and evening, and the surface of the ulcer was smeared with Cosmi's powder; quarter diet was ordered, and a seton was opened in the left arm. After the separation of the eschar, the surface was still dressed with a mixture of Hellmund's ointment, and a little Cosmi's powder, so long as it continued to present a carcinomatous appearance. When this, however, disappeared, the ulcer was covered with charpie, moistened in laudanum. The cicuta pills were gradually increased, until the patient took half a drachm a-day, and in a few weeks the wound was completely cicatrized.

Rheumatic Inflammation of the Eye. Scrofulous, and Traumatic.—The most frequent form of inflammation of the globe of the eye was the rheumatic. This presented itself as *scleritis* in five cases; as *keratitis* in one; as *internal opthalmia* in three; as *general acute ophthalmia* in two; and as *chronic* in one. Next to rheumatic ophthalmia, the *scrofulous* is the most frequent. In addition to these, *traumatic opthalmia* occured in one case; *syphilitic* in one; and general *common* ophthalmia in three. The treatment employed was the same as that which we noticed in our analysis of the last report. It was successful in all but three cases; one of internal rheumatic opthalmia, which terminated in effusion on the iris and amaurosis; in the traumatic, terminating in atrophy of the bulb; and in one case of general ophthalmia.

Amaurotic Diminution of the Visual Power occurred in a patient, a girl, nineteen years of age, in whom the catamenial discharge was partially suppressed. This patient complained of pain in the head, tightness about the chest, cutting pain in the hypogastrium, and heaviness about the

limbs. The pupils were small; the iris was dark coloured, and immoveable; the vision in both eyes was excessively weak and troubled. After repeated bleeding at the foot, and the application of leeches to the temples and perineum, united with cold lotions on the forehead, warm foot-baths, and, finally, the internal administration of aloetic pills, the catamenia returned to their natural quantity, and the amaurosis gradually disappeared.

Rheumatico-congestive Amaurosis.—The second case of amaurosis was one of a rheumatico-congestive nature. The patient was twenty-nine years of age. She complained of severe pain in the eyes and orbits, and was unable to bear the impression of light; both corneæ were of a brilliant appearance; the chambers of the eye seemed tumid, the pupils moderately dilated, insensible, irregular. After a few doses of cream of tartar, followed by small doses of the tartar emetic, the patient took a saturated solution of the extract of hyosciamus, (1 gr. to 8 grs. of distilled water.) Blisters were applied to the neck, and a perfect cure was finally obtained. In a third case, however, very similar, every remedy failed. The disease had been of very long standing.

Gutta Serena.—Three patients were affected with *gutta serena*. The first, a man thirty years old, was perfectly blind in one eye, and nearly so in the other. This man had been subject to convulsions in childhood, and since his 25th year, often suffered from cold in the head. The present disease dated about nine months back: the sight of the right eye, the first attacked, was perfectly lost in two months; the left eye then gradually got weaker, until vision was nearly destroyed. On examination of the patient, the palpebral conjunctiva was found dry, the glandular secretions were diminished, the motions of the eye slow and unsteady, the corneæ dull and flat, the anterior chambers reduced in size, the iris without contractility, painted grey colour, pupils small, and vertically oblong. The patient took small doses of tartar emetic, and some mild laxatives. After a lapse of ten days, a marked improvement manifested itself, soon after he had vomited repeatedly; the right eye could now distinguish the presence of light, and large objects were recognised by the left eye; he was unwilling, however, to submit any longer to the treatment with tartar emetic, and left the hospital imperfectly cured.

Double Amaurosis.—In a case of double amaurosis affecting a Jew, twenty-eight years of age, the treatment was continued during six successive months, without any benefit being derived. The man had gonorrhœa at the age of seventeen; and a few years later, probably from being addicted to onanism, laboured under involuntary emission of semen. The results were, pains in the back and limbs, emaciation, and great irritability of the mind. About six months before his admission, he was suddenly attacked with paralysis of the organs of sight, smell, and hearing. The power of the two latter were restored by a vigorous antiphlogistic treatment, but that of vision remained destroyed. On examination at the hospital, the corneæ were found to be dull and flat; the anterior chambers diminished in volume; the pupils dilated and immoveable; vision, even the perception of strong light, was totally lost; casual pains were felt in the frontal region, and ringing in the ears; there was also general emaciation. Tartar emetic, camphor, arnica, valerian, china, ablution of the spinal column, with cold water and vinegar, warm-baths, derivatives to the skin, &c., were successively employed, but without any effect.

Partial Leucoma and Synechia.—A tailor, twenty-two years of age, presented himself with partial leucoma, affecting the left cornea, and partial anterior synechia, with deposit of pus in the right cornea. This man was cured by the operation of iridodyalisis performed on the first eye, and by that of diaresis on the second. Two other cases, however, were unsuccessful. In one, the artificial pupil was soon closed up again. In a third, where the leucoma was the result of a neglected kerato-iritis, in a scrofulous girl of eighteen years of age, the operation totally failed.

Artificial Pupil.—The operation of artificial pupil was more successful in several other cases; and we mention this the more particularly, because, in Paris, it is considered as one which very rarely succeeds, if ever. Thus, in a labourer, fifty-six years of age, with anterior synechia of the left eye, Professor Langenbeck performed the operation for artificial pupil with the best effects; and a similar happy result was obtained in the case of a girl, fifteen years of age, in whom the iris was closely attached to the cornea.

Prolapsus of the Iris presented itself in two cases; one in a boy fourteen years of age, the other in a labourer aged thirty, and both in consequence of ulceration of the cornea. By a careful employment of the antiphlogistic treatment, especially by repeatedly dropping into the eye a saturated solution of the extract of hyosciamus, both cases were conducted to a happy issue. It was impossible to prevent the formation in both of an anterior synechia; but, fortunately, this accident had hardly any effect on the vision.

Cataract occurred in twenty-nine individuals, fourteen male, fifteen female. The period of life embracing the far greater number of patients, was from sixty to seventy years of age. Thus, according to ages, we find 1 under ten years, 3 under twenty, 1 under thirty, 1 under forty,

7 under sixty, 12 under seventy, and 4 under 80 years of age.

As to the causes of the cataract, we find it in two cases, congenital; in four, traumatic; in five, resulting from internal ophthalmia; in one, from abuse of spirituous liquors; in two, from congestion of the abdominal system (*infarctus abdominalis*); in one, from gout; in one, from constant crying; in the remaining thirteen, from old age or decrepitude.

The complications of cataract in these twenty-nine cases were as follows:—in 2 lachrymation; in 1 entropium, with dislocation of the lens; in 1 posterior synechia; in 2 hippus and nystagmus; in 1 plethora; in 1 chronic catarrh; in 1 gout; in 2 with nebulæ of the cornea.

The number of cataracts in the 29 individuals amounted to 46. Of these, 12 were left unoperated, 34 operated on. Of the latter, 12 were operated on by extraction with Dr. Rosas' knife; 1 with Beer's knife. In all, the inferior incision was employed. The cataracts were nearly all hard, lenticular, or capsulo-lenticular ones.

Discission through the cornea was employed in two cases of soft capsulo-lenticular cataract. Discission through the sclerotic in eight cases.

Depression through the cornea was employed in three cases, and depression through the sclerotica in eight cases of hard lenticular, or capsulo-lenticular cataracts.

In every case where any complication existed, which was likely to exercise an influence on the results of the operation, it was the author's principal care to combat that complication, before he thought of having recourse to the knife. Thus, the case which was complicated with plethora was treated by preliminary bleeding, and the complication of chronic lippitudo was treated with blisters and white precipitate ointment, &c.

The accidents which occurred, after the several operations above described, were—after extraction, slight acute iritis, 2; chronic iritis, 1; after discission through the cornea, slight kerato-iritis, 1; after discission through the sclerotic, a slight sclero-chorioeiditis; after depression through the cornea, mild keratitis in one case; in another, partial re-formation of the cataract. The result of extraction was perfectly successful in the twelve cases in which that method was employed. In one only the vision was partially impeded, by a small effusion of lymph. Discission through the cornea was successful in the two cases, as also was discission through the sclerotic, in the eight cases where it was employed. A similarly fortunate result succeeded the method of depression through the sclerotic; and of the three cases treated by depression, through the cornea, only one was attended by any accident, viz., closure of the pupil with lymph from chronic iritis. Thus, in thirty-four operations for cataract, by various methods, only one was unsuccessful; and, even in that case, there was some hope left of the patient's recovering his sight by a future operation.

Staphyloma of the Cornea presented itself in eight cases; two partial, six total. In one case the disease originated in small-pox; in another, in measles; it was of scrophulous origin in two; of syphilitic in two; of traumatic in one case. In the above eight cases the iris was more or less adherent to the cornea; but they all turned out well.

Medullary Fungus.—In the case of a bookbinder, nineteen years of age, who had been previously operated on for cataract affecting the right eye, the left eye exhibited a commencing medullary fungus of the retina (*markschwamm*). The disease, however, fortunately terminated in atrophy of the bulb, under the internal use of calomel, with the external application of the Neap. ointment, aided by repeated topical bleedings.

Melanosis.—In a case of melanosis of the right eyeball, in a man fifty-two years of age, extirpation of the diseased organ seemed inevitable. However, as the patient constantly suffered from very severe pain, it was thought right to employ an antiphlogistic treatment. For some time previously to the operation the region of the eye was constantly bathed with warm emollient infusion of mallows, with cicuta and hyoscyamus. This method was successful beyond what could have been expected; the pain gradually disappeared, and the disease itself, instead of advancing, terminated in atrophy of the bulb.

Extirpation of the globe of the eye was performed in another case of fungus melanodes, occurring in a woman forty-one years of age; the operation was crowned with success. After the wound had completely healed, the patient was submitted to a course of *solventia*, and a seton was placed in the left arm. The woman remained during several months in the hospital, without any appearance of relapse, and her general health, before unsatisfactory, was much improved.

TREATMENT OF SCALD-HEAD,

EMPLOYED BY M. JADELOT, AT THE

CHILDREN'S HOSPITAL, PARIS.

A CONSIDERABLE number of works has been published on the treatment of tinea, the majority of which has served no other purpose than to introduce to the notice of practitioners a variety of empirical remedies, which they still employ, although most of

them have long since been demonstrated to possess little or no value. The researches of Willan and his successors have made us acquainted with the elementary lesions which characterise tinea, and have established a classification which, at least, has the practical merit of showing that each species of this complaint requires a separate method of treatment, while it explains why a great number of remedies were successful in certain cases, and failed in others.

According to the classification adopted by Brett, Rayer, Cazenave, and Schedel, the term "tinea" comprehends several cutaneous affections which have their seat in the hairy scalp. The form of *vesicle* constitutes the elementary lesion in one species, producing eczema. The other form appears as the result of a *pustular eruption*. The latter sometimes assumes a peculiar character, becoming assembled together in what are called "favi," and thus produce the true porrigo. The more mild forms of tinea constitute the two varieties of impetigo, which almost always attack both the scalp and the face at the same time. It is to the latter that the treatment of M. Jadelot is applicable, the tinea favosa generally requiring the much more tedious and expensive method of cure professed by the "Brothers Mahon," in whose hands it still remains a secret.

In many cases the simple forms of tinea readily yield to the treatment which is commonly employed; but it must be confessed that in many other cases they are extremely rebellious. In additon to this it may be remarked, that the uncertainty and length of the treatment in general use have very often the effect of preventing the children of the poorer class (to which they almost exclusively belong) from having recourse to any medical advice whatever. Under these circumstances it is desirable to find a method of treatment which shall at once be cheap, and not require the length of time that is generally employed. That of M. Jadelot, though but little known, has the merit of possessing the above advantages, and we can bear testimony to its efficacy, from having seen it employed with considerable success at the *Hospital des Enfans Maladies*.

When the eruption presents any of the characters of an acute affection, M. Jadelot commences by combatting these with cataplasms, with frequent lotions of some emollient fluid, (decoction of mallows, &c.,) with baths. When the chronic stage has arrived, he first removes the crusts by an application of poultices, continued for two or three days; the hair is then closely shaved, and this latter operation is performed twice a week during the course of the treatment.

The child's head must, now, be washed twice a day with the following lotion:—

Sulphuret of potassium, one drachm; *Water*, one pint.

And after each ablution a thin layer of the following liniment should be applied over the diseased spots:—

℞ *Sulphuret of potassium*, 3 drachms; *Soap*, 2 drachms; *Oil of paro*, 6 ounces; *Oil of thyme*, 1 scruple.

Having liquified the soap, dissolve the sulphuret of potassium in the oil, and then add the volatile oil. The liniment alone is often sufficient for the cure of recent cases of eczema and impetigo, the lotion, however, aids and abridges the treatment.

When the children, in addition to tinea, are affected with some other cutaneous eruption, it will be right to employ sulphur baths; or, when the parents are too poor to have recourse to the latter, ablution of the affected parts, with the sulphuretted lotion above mentioned, may be substituted in their place. Since the first of January, 1837, M. Jadelot has submitted fifteen girls, affected with tinea, resident in the hospital, and all the out-patients, to this method of treatment. The mean time required for a cure, which was generally obtained, varied from eight to fifteen days. In a single case the treatment was prolonged to two months.

As to *tinea favosa*, properly so called, the same method, employed in a few cases, was always attended with a notable improvement, and, probably, would have triumphed, at length, over the obstinacy of the complaint, had circumstances permitted its being continued for six, twelve, or even eighteen months, the time often required for the cure of this disease by the celebrated treatment of the "Brothers Mahon."—*Gaz. Med. de Paris.*

VELPEAU'S TREATMENT OF HYDROCELE,

WITH INJECTIONS OF A SOLUTION OF IODINE.

TRIAL OF ACUPUNCTURE AND COMPRESSION.

The preparations of iodine, employed topically in cases of hydrocele, have been lately found efficacious in producing the absorption of the fluid, whose presence constitutes that disease.

The observation of this fact gave M. Velpeau the idea of trying the effects of an injection of iodine, which he employs in the quantity of one or two drachms of the tincture of iodine to an ounce of water. The cyst is emptied by puncture, in the common way, and from one to four ounces of the injection just mentioned are injected. It is useless to fill the tunica vaginalis completely, as the fluid may be brought into contact with its whole surface by compressing the tumour in various directions between the fingers. As it is neither ne-

cessary to warm the fluid, nor fill the cyst entirely, the common syringe employed for injecting the urethra will answer all purposes. When the hydrocele is very voluminous, the surgeon has merely to fill the instrument three or four times. When the injections are thrown in, the patient is not forced to keep his bed. For three or four days the part becomes tumid, without causing any pain of a serious nature, or fever. Resorption soon commences, and commonly proceeds with rapidity.

M. Velpeau has now employed this method in twenty-eight cases (a great number of which is reported in the memoir which we analyse), and all, with the exception of two, were cured in the space of twenty days, without the development of a single accident. In one of the two cases, resolution was only partially accomplished on the 31st day, when the operation was repeated, and followed by a rapid cure. Another, affected with a bilobular hydrocele, remained six weeks at the hospital for an engorgement of the testicle. Two of the patients had already been operated on without success, by injections of wine, and by cauterisation; two others were affected with an encysted hydrocele of the chord; in three cases the tumour contained, at least, twelve ounces of serum; and in ten cases the testicle was more or less implicated in the disease, hypertrophied, and unequal on the surface. In twenty-five cases the disease was more than six months old; two patients were affected for fifteen years, and one for twenty-four years. Two of the observations reported by M. Velpeau, prove, that under the influence of this injection, an encysted hydrocele of the chord may be cured in eight days, radically; and that, in five days, certain hydroceles of the tunica vaginalis disappear.

By substituting the tincture of iodine in the place of wine, the surgeon is freed from the necessity of warming his fluid, of procuring a particular instrument, &c.; and, as he does not distend the tunica vaginalis, there is little risk of his forcing the injection into the cellular substance of the scrotum. As an absorbable substance, its infiltration is not so likely to produce gangrenous inflammation as that of the wine; and it is unnecessary to keep it six or ten minutes in the cavity of the sac. Even should some injection remain behind, the consequences are insignificant. Thus, M. Velpeau has left an ounce of the injection in the tunica vaginalis, and found that the only effect produced was a more rapid absorption. It is also unnecessary, in this method of treatment, that the patient feel a sense of pain in the lumbar region soon after the injection; in fact, the patient suffers little or nothing, and might walk about on the day after the operation without any great inconvenience. Thus, one patient, who had been ineffectually treated with the vinous injection, came in the morning to the hospital, and returned home in the afternoon, without keeping his bed for an hour during the treatment. Another young man walked about for a certain time every day without retarding his cure. In a word, the cure is as solid as, and much more quickly obtained than, when wine is employed.

It remains still to determine, what is the best proportion of the tincture to be employed; whether the whole of the fluid should be withdrawn, or a part allowed to remain in the sac; whether it is indispensible that the patient should remain in bed after the operation; how far it may be useful to apply some topical remedies over the tumour; whether the same results will be obtained in the different forms of hydrocele. Time, alone, can answer these questions. One fact, however, which seems deducible from the experiments of M. Velpeau is, that the tincture of iodine may, in all cases, be substituted with advantage for wine, in the treatment of hydrocele. One of the first patients treated in this way, and cured in ten days, died subsequently, after an amputation of the thigh. On examining the scrotum it was found that all the points of the tunica vaginalis were united by cellular adhesions, and that any relapse was impossible.

In addition to the experiments recently made at the hospital of *La Charité*, M. Velpeau had previously made several others, with the object of discovering a method which might be substituted for the dangerous one of vinous injections.

Acupuncture first presented itself. In 1831, a young surgeon communicated to the author the case of a man affected with hydrocele for three years, who was cured in eight days by the accidental introduction of a long needle through the scrotum. Monro published a remarkable case of a cure, which he obtained in six days, by transfixing the tumour with a needle, which he left there like a seton. M. Velpeau tried the method of acupuncture in two cases during the year 1836; but, as both failed, he has abandoned the method. Instead of leaving the needle *in situ*, M. Velpeau has tried the effect of passing a simple thread across the tumour. He withdrew the little setons on the third day; suppuration set in, and a cure was obtained, but even more slowly, and with more trouble, than if a vinous injection had been thrown up. This method, which M. Mayor has since then proposed, under a much more complicated form, does not seem worthy of being preserved. Either with or without the medium of a thread, acupuncture, which Mr. Lewis, after reducing it to a simple puncture with a needle, has lately given as new, deserves (says the French writer), little confidence.

In 1832, M. Velpeau asked, whether the resorption of the fluid might not be obtained by methodical *compression*, when circumstances do not permit any other method to be employed; but the experiments made in September and October, 1836, showed that compression was totally inefficacious.—*Presse. Méd.*, April 12, 1837.

ROYAL COLLEGE OF SURGEONS.

Saturday, April 22nd, 1837.

MR. STANLEY ON HEALTHY AND MORBID OSTEOGONY.—LECTURE 2.

The earliest condition in which we recognise bones, is that of gelatina, when those organs have a definite form, but are homogenous in substance. The next stage of their existence is that of cartilage, when they become firm and elastic. Their chymical, as well as mechanical nature, is now changed, and the new substance, *cartilage*, is found to consist principally of albumen, and to contain but very little gelatine. The deposition of cartilage is said invariably to precede that of bone, but several eminent physiologists have entertained doubts upon the subject, and it is supposed that in the formation of the cranial vault the depositions of bony and cartilaginous matter are coincident. Mr. Stanley's own experience tends to confirm this view of the matter, for he never could detect a distinct cartilaginous deposit between the pericranium and the dura mater. In many bones, however, no doubt can be entertained that the deposition of cartilage takes place before that of bone.

When a few globules of blood are distinguished in the centre of the temporary cartilage, it may safely be considered as the immediate forerunner of ossification. This process of ossification several physiologists, and those eminent ones, have attempted to explain, by saying that it is the result of a strong attraction between the membrane and the bony particles; but even if this were true, it would only explain half the process—the deposition of bone; the removal of the cartilage would remain to be accounted for. We cannot at all consider the changes of condition in these parts to be due to a conversion of the cartilage into bone. It is more philosophical to consider that the removal of the cartilage is due to the agency of absorbents, and the depositing of bone to be an action of the nutrient vessels, both of them being phenomena of life which we cannot, at present, reduce to a more general principle, and which we must yet consider as ultimate facts.

The primary formation of bone is still, essentially, a mystery; but, regarding the growth of those parts, some few intelligible principles have been attained. To take the *femur* as an example; the generally received opinion is, that the growth of that bone proceeds by deposition on its sides, and at its extremities. Sir Everard Home published, many years ago, in the "Transactions of the Med. and Surg. Soc. for the Impr. of Med.," a paper, in which he professed to give the views of John Hunter on this subject, and referred, in proof of his correctness, to a preparation, extant in the museum. This preparation (exhibited to the spectators) tends to show the impossibility of interstitial deposit. Mr. Hunter made two shot-holes in the middle of one of the bones of a very young growing animal; the wounds healed, and the animal grew larger. It was killed, and the distance between the two shot-holes appears not to have been increased, thus showing that growth had not, apparently, taken place in that segment of the bone. In looking out for preparations to illustrate his course of lectures, Mr. Stanley discovered not only the preparation in question, but another, put up, also, by Mr. Hunter's own hands, and to which was attached a label, in the handwriting of Mr. Bell, for many years his assiduous assistant. In this preparation two shot-holes are evident, and the label says, that the distance between them had increased, and that, therefore, interstitial deposition had taken place. Mr. Stanley is of opinion that Mr. Hunter, at the time of his death, had instituted many experiments to ascertain the truth on this point, but that owing to contradictory results, he had not made up his mind as to the true principle. Had Hunter been acquainted with the experiments of Du Hamel, which there is every reason to suppose he was not, he would have been materially assisted in coming to a just conclusion. Du Hamel had made experiments analogous to those of Hunter, and he had arrived at the conclusion, that the crescent deposition took place at both extremities, but chiefly at the proximal end of the bone. Mr. Stanley has performed some experiments on young puppies. He inserted into the radial bones, at equal distances, several shot corns; he kept the animals alive for a sufficient time to allow of considerable growth, and then, having killed them, the relative distances of the shot-holes was found to be not materially altered, but the distance between the distal extremity of the bone, and the last shot, was very much increased, manifesting that the growth had almost entirely taken place at the distal end of the bone. Mr. Stanley also found, that pieces of metal inserted into the substance of the bone become soon completely coated with new osseous matter, and sometimes are found to have penetrated into the medullary canal, as was the case in some instances with Du Hamel in his experiments. These facts seem clearly to prove the principle of growth by external accretion. The cartilage of the embryo Mr

Stanley had had analysed by Mr. Griffiths, Professor of Chemistry at the *St. Bartholomew's School*, who found it to consist of the same constituents, and in the same proportion as, according to Berzelius, the articular cartilages in the adult consist of. It is indeed very evident that the articular cartilages are but the last layers of the original epiphyses, and that the bony corpuscules are regularly deposited, beginning at the middle of the shaft and extending to the ends. The attachment of the epiphyses to the main bone was shown to be pretty strong, the union being fortified by the dovetailing of the opposed surfaces, certain projecting processes of the bone, called by some anatomists little *cotyledons*, being received into small sinuses, or acetabula, excavated in the cartilage. During the period of adolescence, separation of the epiphyses is a more common occurrence than dislocation of the joints. The lecturer exhibited a pelvis of a boy fourteen years old, who, getting up behind a carriage, got his legs entangled in the spokes of the wheel; the legs, and afterwards the pelvis, were drawn into the wheel, and great injury was inflicted. He was brought into *St. Bartholomew's Hospital*. He died, and, upon dissection, it appeared that the epiphyses of all the pelvic articulations were separated from their bony attachments. No bones were broken, and the distal epiphysis of the femur was loosened. All this was evident from an inspection of the actual pelvis, exhibited by the lecturer.

In the bones of old people a dryness and a hardness are perceptible. This peculiarity arises not from a positive increase of the calcareous matter, but from a diminution of the membranous tissue. Mr. Stanley had got Dr. Bostock to analyse a portion of this description of bone, and the result of that chemist's inquiry is, that the greater fragility of these structures is owing to a greater deposition of saline particles in proportion to the extent of membrane. There is, in many instances, an absolute diminution in the bulk of the bones.

Another alteration produced by age in the condition of bone, is an enlargement of the medullary canal and of the bony cells. This produces one kind of mollities ossium; the bone becomes as thin as a shell, and the interior is filled with adipocere. This class of bones is always of a dark dirty colour, being saturated with animal oil, and belongs chiefly to bedridden patients. Mr. Stanley exhibited several examples of this species of degeneration.

The Professor presented to the audience the cranium of a pig, whose food had for some time been mixed with madder, the entire bony tissue being of a beautiful red colour. There are (he said) some points worthy of consideration, as regards the use of madder preparations. These preparations have been considered important—1st, as contributing to illustrate the minute structure of bone; 2dly, as exhibiting a view of the process of the growth of bones; 3dly, as affording evidence of the great physiological principle, that there is a constant mutation of particles in all the solid parts of animal bodies. With respect to the first point, anatomists are not at all unanimous as to whether the colouring matter unites itself to the bony matter, or to the membranous tissue, or whether it is generally diffused through the substance of the organ. Berzelius was of opinion, that a particular affinity existed between madder and the phosphate of lime; he also found, by experiment, that madder, which is but slightly soluble in water, becomes freely soluble in an albuminous mixture. Dr. Arthur Farre has applied the microscope to madder-stained bones, but he could detect nothing that tended to resolve the problem. When these bones were treated with muriatic acid, the colour was so much destroyed that the purpose of the experiment was baulked. The fact, then, appears to be, that madder has not contributed much to our knowledge of the minute structure of bones.

Respecting the second point, the experiments of John Hunter did certainly assist in throwing a light on the process of growth. Mr. Hunter fed animals with provender mixed with madder; he then intermitted the use of the madder; and, subsequently, resumed it. The animal being killed, showed, by alternate layers of red and white, the direction in which the various deposits were made. The beautiful preparations of this great man, relating to this point, as well as the correct drawings made from them by John Bell, were adduced by Mr. Stanley, and the striped appearance of the structure was very remarkable: at each end of the bone the madder injection was most marked.

As to the third point, the demonstration which the madder preparations afford of the constant mutation of particles in living bodies, Mr. S. said, that Mr. Gibson, of Manchester, had, in a very interesting paper, published in the "Transactions" of the Literary Society of that town, called the veracity of this demonstration altogether in question. Mr. Gibson stated, that the colouring principle of madder, having a strong affinity for the serum of the blood, tinged it of its own hue, and thus circulated, through the serous tissue, a coloured fluid, which penetrated, by means of the capillaries, through every part of the bone. "It is, a fact," says Mr. Gibson, "that in seven days the entire bony system becomes tinged: is it to be supposed, then, that in that short time the entire substance of the bones has been changed?" This, cer-

tainly, is a posing question; but great difficulties exist to the admission of Mr. Gibson's theory. The greatest of these is the fact, of the alternate red and white stripes, evidenced by the Hunterian preparations. For, if there be no colouring of the bone itself, and if the serum of the blood alone is tinctured, the colour of the bones, under the circumstances created by Hunter, would be uniform, and the variations described could not exist. If, therefore, the colourations of the madder be legitimate evidences of the scheme of nature in the removal and renovation of parts, we must admit that these processes are carried on with a rapidity of which we have not had an adequate conception.

Mr. Stanley will not admit, to the full extent, the principle advocated by certain modern physiologists, that *all* organs are formed by the apposition of two lateral valves. There is some foundation for this doctrine, but its truth does not hold in the philosophy of the bones. Dr. Nisbett, an old, but a very good authority in this department, has well shown that the primary formation is eccentric, an example of which principle he adduces in the *os femoris*, the ossification of which commences in the shape of a small ring in the middle of the shaft.

"By Mr. Abernethy I was taught, many years ago," quoth the Professor, "that the diseases of bones are exactly similar to those of the softer solids; and my own experience has but corroborated the truth of this proposition. It is, therefore, a matter of surprise to me, to find a recent writer, of high authority, declare, that diseases of the bones require a study peculiar to themselves, and distinct from the pathology of other parts. To this position I must declare my most unqualified dissent, for I must avow my conviction, that every morbid principle affecting the bones, equally affects the soft organs, and *vice versa*."

The bones, although possessing a feeble circulation, and a low sensibility, are more liable to disease than any other parts of the body. In proof of this, we have but to visit the wards of our hospitals, to peruse the most esteemed surgical treatises, or to look over the specimens of our museums. What a predominant portion of the specimens are osseous! In fact, no structure is so well fitted as this to register, as it were, the progressive steps of morbid actions. Under the influence of inflammation, bones become exceedingly painful, and disorganization speedily takes place, but the constitutional sympathetic symptoms are not often proportionally severe. Very severe operations may be performed, such as the chiselling away of a quantity of bone in necrosis, for the emancipation of *sequestra*, and though much pain be created, no very serious inconvenience succeeds. Here are preparations showing the mode of deposition in necrosis. Here is a femur, in which inflammation of the periosteum on the surface has produced a corresponding inflammation in the medullary membrane. Here, moreover, is a preparation made by Dr. Macartney, in which there is an abscess in the medullary cavity of the tibia, and the periosteum of the surface shows marks of disease, consisting of that membrane softening, and being partly separated from the bone. This principle of morbid consent between the inner and outer nutrient membranes of the bones, must be familiarly known as taking place in the cranium, where there is danger of pericranial inflammation extending, by contiguous sympathy, to the dura mater beneath. At a future period, I shall consider the nature of spina vertosa, and other abscesses in bones. I shall now draw your attention to these drawings and preparations. It must be known to you, that in caries of bone, no restoration of bony matter ever takes place, a ligamentous substance is secreted in place of the defunct bone, but no osseous matter is ever deposited in the vacancy. By a compensatory arrangement, however, a secretion of bone takes place elsewhere. Thus, in this tibia, which I hold in my hand, a large quantity of the bone has been removed by absorption, and its place filled by ligament, but the strength of the limb was maintained by a remarkable thickening of the fibula, and the ossification of the interosseous ligament. In these two drawings you see the result of two experiments. In the first, a portion of the radius of a dog, including the periosteum, has been removed, the dog being killed, after a time; no attempt at restoration of the gap had taken place, but the portion of ulna near to it is thickened to twice its natural dimension. In the second, a portion of radius has been removed, but care was taken to leave the entire periosteum, and the manifest result is, the complete restoration of the part amputated. The providence of nature, in this arrangement, is wonderful, as well as in some remarkable deviations from it; for example, in injuries of the outer table of the skull, no thickening of the inner table occurs, and the reason is obvious enough. This other drawing shows, that a compensatory osseous deposit takes place in the concave side of a ricketty-bone; and thus, in the excavation produced in the femoral bones of old people by instertitial absorption; the sides of the bones are rendered so thin, that a trifling force is sufficient to fracture it at the cervix femoris, a circumstance so frequent in aged patients. The non-production of bony deposit within the inner table of the skull, is a provision of nature analagous to the exemption from adhesive inflammation, with which John Hunter has shown mucous membrane to be endowed. In the course of my future

observations, I propose to show the identity of the pathological principles affecting all the tissues of the animal economy.

The Professor delivered his lecture *extempore*, and his enunciation was more simple, and, consequently, more intelligible than in his introductory essay. On Thursday several members were refused admission, from arriving a few minutes after the commencement of the lecture, although the theatre was not more than half full. This regulation is but another instance of the total disregard of the Council for the feelings and convenience of the members. It is impossible for a medical man exactly to controul his engagements, and there is no reason why admission during lecture should produce interruption in the theatre of the Royal College of Surgeons, any more than in all the other theatres, where no such restriction exists.

ROYAL INSTITUTION.

Friday, 21st April, 1837.

CONFIGURATION AND DEVELOPMENT OF THE NERVOUS SYSTEM.

THERE was a thin attendance of members this evening, on which occasion, Mr. SOLLY, who is evidently a practised lecturer, illustrated his views by producing a number of well-executed drawings. By way of exordium he stated, that the apparently complex organs of the human and other animal bodies, really consisted but of three primary tissues, the membranous, the muscular, and the nervous, or neurine. The last, which was the subject of his observations, was admitted by all physiologists to be of two kinds, the white or nervous portion, and the brown cineritious or pulpy portion. There was, he said, an unanimity of opinion as to the belief, that the pulpy part was the seat of the nervous energy, and the fibrous part the channel through which that energy acted. In his demonstration of a few of the general analogies of the nervous system, he should imitate the plan adopted in that theatre on some evenings previously, by that eminent zootomist, Dr. Grant. That gentleman, in treating of the glandular system, proceeded to the lowest grade of animals, and showed that the most simple form of glands consisted in a mere follicle, or *blastema*, which was nothing more than a membranous surface, supplied with two vessels, an artery to supply nutriment, and a vein to carry away the superfluous blood. Dr. Grant had shown, in the most pleasing manner, that this simple arrangement constituted the type of the most complicated glandular structure of the higher orders of animals.

The most simple condition of the nervous system was to be found in the fresh-water polype, an animal capable of receiving impressions, and originating motion in consequence. In this, though the eye afforded no assistance, it might fairly be inferred that spots of pulpy matter existed, dispersed in different parts, though the connecting commissures could not be discovered. In the *articulata* the nervous system was more fully developed; for instance, in the astreas, or common star-fish. Dots of pulpy matter, circularly arranged, were connected together by means of fibrous commissures, and nervous chords were distinctly seen to proceed to the several radii. In the locust the nervous system was shown to consist of two rows of pulpy points, or ganglions, communicating by means of transverse and longitudinal commissures. The transverse bands manifestly performed a function different from that appertaining to the longitudinal bands, for each pair of ganglions formed a distinct centre of energy, and the transverse commissure constituted the channel of consent between the two; but the nature of the agency of the longitudinal bands had not been ascertained. In a higher genus of the *articulata*, as the common larvæ, these two parallel nervous chains are united into one column, in which the several commissures still are sufficiently distinct. This analogous structure is clearly developed, even in the spinal chord of the vertebrated animals. By a transverse incision of this cerebral additamentum, the inner pulpy portions are exhibited, and their union, by horizontal fibrous bands, is demonstrated.

In the mollusca, a more complicated arrangement of the nervous tissue is discovered; a part analogous in function to the brain of higher animals, is the nervous ring surrounding the œsophagus. As the animal rises in the scale of perfection this ring becomes distinguished by an upper and an under ganglion, indicating higher attributes in the animal.

The lecturer produced drawings of the comparative development of this tissue, in the original state of the caterpillar, and in its transformed state as a chrysalis, and afterwards as a butterfly. The progressive increase in size of the cerebral lobes was well marked. The thalamus nervi optici was singularly produced in size as compared with its bulk in the state of grub. This fact is, of course, explained by its greater capacity of enjoying the light; the perception of colour being probably the greatest source of enjoyment to this little insect.

The lecturer exhibited drawings of the nervous structures in several fishes, as the carp, the skate, the flying-fish, and others, in which were represented the comparative development of the cerebral organs.

Mr. SOLLY said, he considered a nerve to be a cord proceeding from some sensitive or motive surface to a medullary centre, to which it conveyed impressions which were converted into sensations, and whence was reconveyed the energy which produced voluntary and involuntary motions. In the human subject, the olfactory nerve which ministers to a sense not highly developed in man, terminates in an oval or pyriform bulb of cineritious matter, which is joined by a long commissure to the cerebral mass. In other animals, as the horse, in which the sense of smell is much more acute, this thalamus grows to an extraordinary size; and in some animals it is altogether deficient.

The thalamus nervi optici, is in man of about the size of a common marble; but in birds, and some fishes, it constitutes the larger portion of the cerebral mass. In the common butterfly this part is many times as large as the remainder part of the brain, contributing, as has been said, to its faculty of enjoying colours. The lecturer traced the various cerebral nerves to their origin in the nervous centre, and compared that part (as regards development) with the corresponding structures of other animals. He then proceeded to consider, as a whole, the brain and spinal marrow, which had been by former anatomists arbitrarily divided. He traced the anterior column of the spinal marrow into the cranium, showed its double bifurcation into the peduncula, or crura, and exhibited its distribution in the medullary matter of the cerebrum and cerebellum. The white part of the brain he considered to consist of connecting fibres, uniting the several portions of the cineritious mass, the real seat of energy, and of the several commissures described in special anatomy, such as the corpus callosum, the fornix, &c. The lecturer demonstrated what was formerly designated as the cortical portion of the brain, and which he describes by the appellation of the hemispherical lobes. This extensive portion of the brain, he thinks, is subservient to the intellectual processes; and he thinks the fact, that portions of the pulpy mass are isolated by membrane, is a circumstance favourable to the theory of phrenology. As animals descend in the scale of existence, the brain becomes less and less convoluted. In man the square measure of the surface of the brain must be very great; but it becomes necessary to confine it, and fold it up, into a narrow box, in order to its easy transport, and this is done by convoluting it so that it becomes containable in the cranium.

Mr. S. concluded by saying, he hoped he had made it clear, that, in the most complicated, as well as the most simple, system, two conditions of nervous matter alone existed,—the fibrous and pulpy tissues.

THE LANCET.

London, Saturday, April 29th, 1837.

CONTROVERSIES in the public journals are seldom productive of advantage, in consequence of the angry spirit in which they are conducted. Frequently it is the object of public writers to overthrow an opponent by satire, misquotation, and sophistical reasoning, instead of proving, for the information of the reader, and the utility of the public, that their antagonists have drawn their deductions from a long catalogue of unsound premises.

The scenes in which this Journal has been engaged have been of a very variegated description, because it has necessarily happened, that wherever there have been evidences of abuse and misgovernment, we have endeavoured to introduce the corrective instrument of reform and improvement. In this respect we had no choice. Our purpose was single and simple, namely, that of establishing the whole system of medicine, divided into its three great departments of EDUCATION, PRACTICE, and GOVERNMENT, upon a just, secure, and honourable basis.

In pursuing the straight-forward path of our duty, we necessarily were exposed to the assaults of the ignorant and the corrupt, as well as of writers who, although they were conversant with medical literature, had failed to devote any considerable portion of their time to the study of the causes, of the advancement, and the decline, of the science of medicine, and of the nature of the instruments which could best secure its advancement and utility.

Amongst the latter class of persons, we are inclined to include the writers in Dr. JAMES JOHNSON'S medical review. In former times we were not very courteous towards the contributors to that publication. The "Medico-Chirurgical Review," in the first days of the existence of THE LANCET,

had no claims either upon our civility or our clemency; and as there was no title to a privilege of that sort, none was offered. On the contrary, we were impelled, by an imperative sense of duty, to oppose, strenuously and unremittingly, the principles which were then advocated in that quarterly periodical, on the subject of medical politics and government.

In what manner the contest terminated, it is unnecessary to explain. Some years have now elapsed since Dr. JAMES JOHNSON announced that he had become a medical reformer; and, believing that his journal would henceforth befriend the cause of science and humanity, we have withheld a critical eye from the pages of the "Medico-Chirurgical Review." Of course, we shall not allege that our confidence has been abused; but, we cannot refrain from expressing our regret, that Dr. J. JOHNSON permits *his work* to be made the vehicle of disseminating doctrines of the most pernicious character, with reference to the study of medicine, and the intellectual and pecuniary condition of surgeons in general practice. With this preface, we introduce, to the notice of our readers, the following extracts from the last number of the "Medico-Chirurgical Review:"—

1. "It has frequently been urged, and with all the intemperance of interest, if not of ignorance, that medical education is not cheap enough, and that greater facilities should be afforded to poor and industrious talent,—a specious appeal to the best feelings of the heart, an appeal which is too apt to stifle the severe maxims of reason and of judgment."

2. "But it may be questioned, whether it is possible for the mass of the profession to acquire the general knowledge that we speak of. It must be recollected, that such knowledge is only obtained by a large sacrifice of time, and by a proportionate outlay of money,—by an expenditure, in fact, of capital, which the majority have not, and which, *if* expended, would not bring, in the crowded ranks of general practice, an adequate return. Medical assistance must be found for all classes. But, as all classes neither will nor can remunerate alike, those who attend the poorer cannot be expected, for the shabby income they receive, to disburse a great capital in the shape of genera and preliminary education."

Precisely in the spirit which is manifested in the above paragraphs, has a series of remarks been written, which have appeared in the numbers of the "Medico-Chirurgical Review," within the last two years, relative to the character of the education, income, and practice of the great body of English surgeons. The Reviewer could not write a short criticism on the "Introductory Address," which was delivered at the *Bristol Medical School*, in 1836, by Dr. SYMONDS, without gratifying his desire to misrepresent what are the actual conditions and qualifications of an immense majority of his professional brethren. In order to attain his object, he even mis-states facts, where errors are the most easy of detection, and inverts, in the purest style of sophistry and miscalculation, the position which a general practitioner first occupies during the term of his education; and, subsequently, while he discharges the important duties of his calling. On perusing paragraph 2, what impression must be left by its contents on the minds of *nonprofessional readers?* Why, necessarily, that the mass of the profession possess but a very small modicum of "general knowledge;" that they are without "money" sufficient to enable them to obtain a good education; and that, *because* they practise amongst the "*poorer* classes," they receive but a "*shabby* income!"

Then, it is said, "It must be recollected, "that general knowledge is only obtained "by a large sacrifice of time, and by a proportionate outlay of money;" and how does the reviewer intimate, by his reasoning, that this state of things is to be improved? Obviously enough, by increasing the "*sacrifice* of time," and by adding to the "outlay of *money*," by an "expenditure of *capital* which the *majority* have "not." Alas, for the stigmatised "*majority with shabby incomes!*" Nothing seems to disturb the mind of this sapient reviewer so

much, nothing so distresses and perplexes him, as the thought, to use his own words, in another place, as the plan of "*cheapening* "medical education." If the article before us had appeared in a work of no standing in the profession, the gross ignorance which is exhibited in it with reference to the entire subject under discussion, would have relieved us from the necessity of making it the subject of a commentary; but Dr. JAMES JOHNSON, the editor, is a practitioner and an author of a respectable reputation; and, unfortunately, this reviewer has, on the present, and on previous occasions, been permitted to print his monstrous crudities, under the sanction of the name of his employer.

The writer, as we before stated, has blended into a mass of inexplicable confusion, nearly all the propositions which he has contrived to bring within the limited range of his weak faculties, and so thoroughly and incurably obtuse is this writer, that he has instituted a comparison between the bar and the church, on the one side, and medicine on the other, for the purpose of proving that the two former are deemed respectable and honourable, in a worldly point of view, because the expense of entering them is too great to permit the "*inferior* "classes to rush into them *en masse*." But we will quote the whole of the sentence:—

"The bar, the church, are both deemed more honourable, in a worldly point of view, than *it* (medicine) is, not simply because the prices they offer are higher, but because the capital necessary to enter either, with a prospect of success, is, on the whole, too great to permit the *inferior* classes to *rush* into them, *en masse*."

Then the writer goes on to observe:—

"If we lower medicine, while the other learned professions are not lowered also in a proportionate degree, we necessarily decrease the disparity between them, and degrade, in the world's eye, the former. Observe, that we are simply stating the fact."

We can "observe" no such thing, Mr. Reviewer. On the contrary, we can only *observe* that you are writing yourself down "A BOOBY," and exhibiting unparalleled ignorance on the subject which you have attempted to discuss. This profound reasoner and acute critic will be shocked to hear, that he is entirely mistaken with regard to the expenses which are necessarily incurred by persons who enter the professions of divinity, law, and physic. Instead of *poor* talent being excluded, as he supposes, from the two former, those professions are freely open to the reception of persons belonging to the classes which he has denominated "the inferior." In fact, from the judicious liberality which has been displayed in their systems of government, the professions of law and divinity have long towered over that of medicine, and have obtained for their professors the highest marks of public confidence, respect, and admiration. It is an absolute fact, that while a young man is working his way to the bar, and even to the bench, he may employ a portion of his time—sufficient, indeed, to procure the means of maintenance, —in pursuits which are in no respect connected with the legal profession." The costs of "term-eating" are almost nominal, and, with regard to the actual expense which a person must necessarily incur to become *a barrister*, it is absolutely under the amount of the fee which is often demanded for receiving an apprentice to an apothecary. But the *poor* talent which is so much *dreaded* by the reviewer, is even invited into our public free-schools, and the sons of the least opulent of our shopkeepers often make their way, without the expenditure of money, to the head forms in those seminaries,—to the scholarships in our universities, from thence to the benches of judges and bishops, to the seats of lord chancellors, and to the palaces of archbishops. There are scores of living instances of this rise of poor talent, from the lowest to the highest stations which a subject of the British Crown can occupy. Several of the most distinguished men now on the bench, and at the bar, maintained themselves in early life by reporting for the newspapers, while they were "eating their terms'

in the Inns of Law. Are they the less respectable because they have obtained their present elevated positions by industry, and the cultivation of *poor* talent? Again, several of our bishops have been sons of humble tradesmen. If they could not have proceeded in their early career of study without being met, at every turn, by a stern demand for the price of a "ticket" of attendance on "recognised" lectures, they must have remained where they were, amongst the "inferior classes;" and the Senate of the nation could not have been benefited by those attainments which now distinguish and signalise their names, character, and reputation. Thus it actually happens, not only that the "general knowledge" of which the reviewer has spoken with such profound stupidity, may be acquired by means of our free schools, without any expenditure of money," but that *poor* talent, thus nurtured, may continue to rise, freed from all the clogs and embarrassments of pecuniary costs, to the most lucrative and distinguished offices in the state. The announcement of such a fact must be quite horrifying to the notions of "respectability" which are entertained by the reviewer in this quarterly journal. He states that—

"Different classes in this country are po-
"pularly considered to possess different de-
"grees of what is called respectability. It
"so happens, that the wealthier classes are
"usually deemed the most 'respectable.'
"Whilst these principles" (what principles?) "obtain (we do not defend them,)
"a profession which offers no temp-
"tation for *respectable* people to join it,
"which can give them no prizes if they do
"join it, is *scouted* by them, and soon
"ecases to be thought respectable itself."

As we have already shown, the bar, the church, and the benches of judges and bishops, are open to all the poor talent of England, Ireland, and Scotland. What is the consequence? The influx of talent, thus drawn from the most extensive sources of human thought and intellect in the empire, has contributed to render the professions of divinity and law exactly what they are, the most distinguished and respectable in which men of genius can be engaged. All that we demand is, that the profession of medicine should be placed on a similarly just and philosophical basis,—that is, that the *poor* talent of the nation should be nurtured whilst it is in pursuit of a knowledge of medicine, and that the public should no longer be deprived of those advantages which superior attainments in that science are calculated to confer, over what can ever be derived from the mere bestowal of a large amount of wealth, on what is falsely denominated "educa-
"tion," or from the possession of wealth, after an imperfection education has been acquired.

The Naturalist's Library. Conducted by Sir W. Jardine, Bart. Vols. IV. to IX. Coloured Plates. London, Highley, 1836-7.

We have already noticed the earlier volumes of this work, which, for compactness and cheapness is, of its kind, unique. The construction of each is confided to some gentleman of repute amongst naturalists, and several divisions (for instance, moths, butterflies, goats and sheep, pigeons, African birds, elephants,) have prefixed to them memoirs of distinguished men, whose labours have been devoted to the extension of knowledge in the great open field of nature. Thus, we have well-compiled biographies of Werner, Madame Merian, Sir J. Banks, John Hunter, Bruce, Sloane, Lacepede, and others. It would be fruitless to attempt to analyse the contents of such a work; we shall take the opportunity, however, of making use of one of the biographical notices, which is immediately *apropos* to our own profession, as we can deduce from it a "moral," which we shall invert the usual order, by placing at the head of the story,—the Life of Bruce, the Abyssinian Traveller.

To demonstrate that the most useful may be the most respected character in society, need not long puzzle any man who would take the pains to seek for illustrations of

the proposition; and that which is so true of individuals, is even yet more easily proved as regards professions. Who that observes medicine, can fail to see that its professors, adorned by high morality and generosity of feeling, should rank immeasureably beyond all other professions? The story of the basket-maker and the prince is typical of this. Moreover, the highest estimation of their own profession by medical men themselves, has this peculiar quality, that it does not partake of vanity. Indeed, exactly in proportion as the sense of superiority is strong amongst them, so is that superiority likely to be preserved. Unfortunately, it is not easy to induce medical men to estimate truly their own position in society. We refrain from citing more than one of the abundant proofs which might be quoted in support of these views, although our attention is aroused by them at every point from which we regard the profession. The utility of medicine, however, and the respect, nay, almost, the adoration which it is calculated to excite, cannot be more strikingly exemplified than in the lives of some travellers who have penetrated the interiors of uncivilised countries. Many men belonging to this bold and able class had studied medicine, but it had before escaped our observation that the celebrated Bruce was amongst them. It was solely by the aid of medical knowledge that Bruce reached the supposed object of his laborious search in Abyssinia, the source of the "blue" branch of the Nile; and the circumstances recorded on this point may be adduced with such brevity, as to allow us to notice them here; and we willingly seize the opportunity of claiming this honour for medicine, for the first time that it has been done in an especial manner.

Let us first premise, however, that it is fully established now, though the general prejudice is even yet scarcely diminished, that Bruce was *a man of truth*. The following extract from Mr. Crichton's Life of Bruce, (7th volume of the "Naturalist's Library,") contains an account, in its true light, of the most often-bruited occurrence on which the insinuations against his veracity were founded:—

"It was in the neighbourhood of Axum, where stood the celebrated ruins, supposed to have been the ancient capital of Abyssinia, that Bruce saw the natives eat raw beef-steaks, warm from the cow's buttock, and he has minutely described the exploit. He had fallen in with a party of travellers who were driving a cow; on a sudden, they tripped up the poor animal. One of them then sat across her neck, holding down her head by the horns; another twisted the halter about her fore-feet; while a third got astride upon her belly before her hind legs, and in a twinkling cut out two pieces, thicker and longer than our ordinary beef-steaks, from the higher part of the rump. 'How it was done,' says Bruce, 'I cannot positively say, because, judging the cow was to be killed from the moment I saw the knife drawn, I was not anxious to view that catastrophe. Whatever way it was done, it surely was adroitly.' When the operation was ended, the skin, which had been merely flayed off and left entire, was flapped down over the wound, and fastened by two skewers; the part was then covered with a cataplasm of clay, after which the animal was forced to rise and proceed, until her drivers required another meal. This fact was one of the extraordinary events in which Bruce's veracity was called in question; the story was, in his own country, considered too absurd to be true; subsequent observations, however, have since amply verified his statements."

The ancient ancestors of Bruce claimed kindred with the Royal Bruce. He was born on the 14th of December, 1730, a feeble and a phthisical child, who afterwards became a stalwart man of enormous stature. At first he was designed for the church; then he studied for the bar; then he sought civil employment in India; then he became a wine-merchant, and so travelled abroad, where, chancing to witness the battle of Crevelt, in Hanover (1758), he made every effort to become a soldier; and, finally, Lord Hallifax filled his mind with a desire to solve the great geographical problem, the source of the Nile, which had baffled every previous traveller. At Algiers he first spent two years and a half, and he there obtained time to fully qualify himself for his journey, obtaining from Mr. Bell, the King's surgeon, and Dr. Russell, a British physician, of Aleppo, "professional information on the compounding and administering of medicines," which he so extended that, as we have intimated, it served as a passport everywhere, when all other species of knowledge failed him. At Alexandria he encountered Ali Bey. "His knowledge of physic attracted the notice of Ali, who sent for him to prescribe a cure for a fit of sickness with which he had been seized after dinner. Bruce recommended an emetic; a remedy which, being contrary to the religion as well as the stomach of a Mussulman, was declined, until the experiment was made on a young monk, 'who was absolutely turned inside out before them,' that the Bey might have the satisfaction to see how the medicine operated." Two days' journey from the celebrated Luxor, Bruce met with the chief of a powerful Arab tribe, (Sheik Nimmer) whose friendship became important to the traveller. He found the sheik very ill, lying on a carpet, in the corner of his tent. Bruce at once prescribed "soap pills," which afforded him great re-

lief, for which the veteran afforded to Bruce his best protection as far as Cossier.

The following anecdote is characteristic and curious:—"At Jidda, an important place in the Red Sea, Bruce arrived with jaded appearance and shabby dress, which made him resemble a native Arab rather than an Englishman. Even his own countryman at Jidda, Capt. Thornhill, could not recognise him as an European; and imagining him to be some starved adventurer, he ordered his cook to give him a hearty meal; Bruce despatched his dinner, and fell asleep in the open court yard. While enjoying this repose, his luggage arrived at the customhouse; and the Vizier being curious to know what so many large boxes contained, ordered them to be forced open. The magnificence of the contents, contrasted with the humble guise of the owner, excited his utmost astonishment. The first thing he beheld was the firman of the Grand Signior, splendidly written, the inscription being powdered with gold dust, and wrapped in green taffeta. Next appeared a white satin bag, addressed to the Khan of Tartary! Then a green and gold bag, with letters directed to the Sheriff of Mecca! Then a crimson satin bag, containing others for his chief minister! Lastly, appeared a letter from Ali Bey to the Vizier himself, written with all the pomp of a prince to a slave, and concluding by saying, that if any accident should happen to Bruce through his neglect, the offence should be punished at the gates of the Holy City. The Vizier's curiosity was soon changed into feelings of painful alarm; he ordered the mighty stranger's boxes to be nailed up immediately, mounted his horse, and instantly rode to the English factory, inquiring every where for the English nobleman, whom nobody had seen."

At Massuah his safety and objects only were secured by the arrival of letters to the Naib, expressing surprise that "the physician sent by the King from Assyria was detained so long by the Naib, and commanding the Naib to furnish him with all the supplies he might wish without loss of time."

At Gondar he was "soon discovered by the queen's chamberlain, who had already heard of his renown as a physician. This functionary told Bruce that the son of Ras Michael had arrived from the camp, ill of a fever which was supposed to be the smallpox, and that the queen-mother had sent to request his attendance at her palace, to consult about the patient. In obedience to the royal mandate, he repaired to her majesty's residence; but the sick youth had received so much benefit from a charmed potion administered by a saint, consisting of certain mystic characters written on a tin plate, and then washed off and given him to drink, that the consultation was deferred till next day. Scarcely had he returned home, however, when a second message informed him that Welled was so ill that his mother, the beautiful wife of old Ras Michael, the queen-mother, begged him to come again and visit him, with some others who were sick. On entering the palace, he found that a deputation of monks had arrived to perform a miraculous cure. In consequence of this, Bruce's skill was not put in requisition. Next afternoon he was informed that Welled and some other sick had died, which destroyed all faith in the saints. As the contagion had spread itself all over Gondar, Bruce was requested to take up his abode in the palace, where the whole royal family were placed under his charge. Accordingly, being provided with an Abyssinian dress, he entered at once upon the functions of his new profession. His treating the disorder by fresh air and fumigation, so contrary to the suffocating system and the cramming with raw beef, as practised in Abyssinia, was attended with the happiest results. His patients were at length considered out of danger, and by way of fee he received a house in the immediate vicinity of the palace, where he continued to reside, with a view not to leave his charge until further orders."

The following anecdote, though not professional, is interesting of one who allied himself so intimately with our profession; it is illustrative at least of one necessary quality of the physician,—confidence:—

"Bruce had continued to visit his patients regularly at Koscam, where he was cordially received by the Iteghe; but he had been neglected by all except the Moors, who were grateful for the attention he had paid to their children. The Moorish chief of this district, Ras Mahomed, gave a supper to Bruce. During the repast, the wine circulated so freely, that Guebra Mascal, who was incessantly vaunting about his skill in fire-arms, got so cup-valiant that he gave our traveller a kick with his foot, calling him a liar for saying 'that the end of a tallow candle in his gun would do more execution than an iron ball.' Bruce, boiling with passion, seized him by the throat and threw him on the ground. The boast about the candle had excited the king's curiosity. Accordingly, Bruce ordered three strong buffalo hides to be suspended against a post, close in contact behind each other; and having put one half of a candle into his loaded musket, discharged the contents through all the shields with such violence, that the tallow was dashed into a thousand pieces against a stone wall, beyond the targets. Shouts of applause followed this exploit. The other half of the candle was fired through a table of sycamore. The priests alleged that the whole was done by magic; but on the king's mind it made the most lasting impression, so that ever after he treated Bruce with the most decisive marks of friendship. This

simple feat, which every school-boy can perform, was long remembered in that country, where the story was told to Henry Salt, forty years afterwards."

On one occasion, shortly after this exploit, he was very attentive to the governor of Damot's "servants while in the camp, especially in prescribing for his principal general, who had a cancer on his lip; and in return he obtained a grant of the village of Geesh. This arrangement greatly facilitated his plans."

We refrain extracting the artless and enthusiastic description which Bruce has given of his feelings, on discovering what he presumed to be the source of the Nile, a petty streamlet, issuing from a hillock of green sods, the origin of the vast mass of waters which fertilised all Egypt. Suffice it to say, that forgetting all the difficulties which he had encountered, he here drank "to the health of George III., from a large cocoa-nut shell, still preserved amongst the family heir-looms at Kinnaird, after which he tossed his cap in the air with a loud huzza, until the Agows, who had appeared on the neighbouring height, stood in silent amazement, believing that he was out of his senses, or had been bitten by a mad dog."

"It is scarcely necessary to inform the intelligent reader, that Bruce's discovery, after all, left the great problem (the real sources of the Nile), still unresolved. In Nubia, the Nile splits into two branches, called the Blue River, flowing from the eastward, and the White River, which takes a western course. These names they derive from the colour of their waters, which shows that they flow through tracts of differing soil. Bruce took the blue division. At their junction, the White River is by far the larger of the two; this is the main artery of the Nile. This, Bruce himself, much to his honour, admits, and conjectures, from the larger volume of water, that it must proceed from a more remote source; so remote, that it yet remains undiscovered."

On his return, his fame as a physician introduced him to the royal haram of the Nubian king, in which were fifty queens, whose curiosity he gratified, by cupping several of them until the apartment overflowed with royal blood. He reached Cairo in safety, in January 1773, but there he presented so weather beaten a face, that no friend could recognise him, having been absent nearly seven years and a half. He had had no shirt for fourteen months, and had neither stockings nor shoes. In his coarse woollen girdle were stuck two silver-mounted pistols, and a knife with a rhinoceros-horn handle. On reaching Paris, and, subsequently, in London, he was received most enthusiastically, and courted by all classes.

"But his narratives were so new, so extraordinary, so romantic, so totally different from anything that had been heard of in England, that his statements began to be received with incredulity. He was assailed by poets, critics, and garret philosophers, from Dr. Johnson to Peter Pindar, who ridiculed the possibility of human beings eating raw flesh, wearing rings in their noses or lips instead of their ears, using rancid butter for pomatum, and plaiting their hair with the entrails of animals. All this appeared so horrid, so barbarous, and so un-English, that Bruce was generally regarded as making too free with the traveller's license, and amusing the public with idle fables. Bruce, however, was too honest to sacrifice truth to popularity, and too proud to submit to insolence; accordingly, in sullen indignation, he retired to Scotland in 1774, to his patrimonial estate of Kinnaird."

"The fame and honour of Bruce have, however, long ago emerged from the cloud of misrepresentation which ignorance and prejudice had gendered; and his name will go down to posterity as one of the most brave, honourable, intelligent, and enterprising travellers that Great Britain ever produced."

"His temper was exceedingly sensitive on the controverted points of his travels. One day when a relation in East Lothian bluntly remarked in his presence, that 'it was impossible that the natives of Abyssinia could eat raw meat!' Bruce said not a word, but immediately brought from the kitchen a piece of raw beef-steak. 'You shall eat that, Sir, or fight me,' he said, handing the platter to the sceptical gentleman; which task being most reluctantly performed, 'Now, Sir (said Bruce calmly), you will never again say it is *impossible*.' The last act of his life was one of courtesy. A large party had dined at Kinnaird, and when the company were about to depart, Bruce, who was gaily talking to a young lady in the drawing-room, observed that her aged mother was proceeding to her carriage unattended. In hurrying to her assistance, at the great staircase, his foot—that foot that had borne him in safety through so many dangers in so many distant lands—slipt; he fell down several steps, broke some of his fingers, pitched on his head, and expired."

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

April 25th, 1837.—*Dr. Bright, President.*

FREQUENCY, NATURE, AND DIAGNOSIS OF EXCAVATIONS IN THE LUNGS, WHICH ARE INDEPENDENT OF TUBERCLES.

A paper on this subject, by Dr. P. M. KINGSTON, physician to the St. George's and St. James's Dispensary, was read. The author commences by observing, that in combating the opinion of Laennec and Andral on the subject of the origin of pulmonary excavations, namely, that they result almost exclusively from the breaking down of tubercles, he does no more than revive an opinion, which, up to the last fifteen years, was generally entertained. The author having examined the thoracic viscera in sixty-five fatal cases occurring at *St. George's Hospital*, in the course of fourteen months, found, in seventeen of the number, pulmonary excavations, unaccompanied with tubercles, as defined by Andral, and of these, thirteen were also unattended with the tuberculous infiltration of Laennec. He has met with three cases, in which pulmonary excavations were produced by the breaking down of fungoid and encephaloid tubercles, the pulmonary affection being secondary on long-standing schirrus and encephaloid disease; in *two* cases, of the breast; in *one*, of the liver. In one case, in the opinion of the author, the excavations arose from gangrene. In ten of the cases, symptoms which existed for some weeks before death, showed that the inflammation preceding the excavations had been acute. In the remaining six, the local appearances were such, as even Laennec and Louis would have allowed to be clearly indicative of inflammation. The author has met with many cases, in which, after death, there was found in the part of the lung where inflammation had been seated, capsules filled with dry calcareous matter, of various degrees of coherence. He believes these calcareous bodies to have been formed by deposition from the pus, which, in the first place, had filled the cavities, but had been eventually absorbed. Even where excavations occur in conjunction with tubercles, the author is not prepared to admit that they are always to be attributed to the breaking down and evacuation of those bodies, but thinks it probable that a considerable number are the effects of pneumonia.

Admitting that the existence of pulmonary excavations can be detected with much accuracy by the stethoscope, the author cautions practitioners from concluding with Laennec, that such cavities imply the existence of tubercles, such an error being likely to produce very many fatal mal-practices.

Mr. MALCOLMSON had seen a considerable number of abscesses of the lungs; these were almost always the result of tubercles. Indeed, it had been considered by an able writer in the "Calcutta Journal," that almost all cases of abscess of the liver depended on the same taint of constitution as produced tubercles in the lungs. He, (Mr. M.) in examination, had failed to detect the simultaneous occurrence of abscess in both these organs.

Dr. BARKER had conducted the post mortem examinations at *St. Thomas' Hospital*, for the last four or five years. He had only seen four or five cases of abscess of the lungs, which were not evidently the result of tubercles. In many instances, isolated tubercles were found in the lungs, otherwise apparently healthy, in persons who died of other affections. These tubercles, singly, or in small clusters, he had frequently found in various stages of development. He thought it was highly probable, that in the four or five cases he had mentioned above, these circumscribed tubercular deposits had softened and been discharged, leaving no traces of tubercles behind, but leaving a cavity.

The PRESIDENT had been in the habit, for twenty years past, of examining dead bodies. In cases occurring at *Guy's Hospital*, in which the examinations were conducted in the presence of many individuals, he believed they all had decided that no material number of abscesses, or what appeared abscesses, which did not depend on tubercular deposit, had occurred. Cases might occur, like those mentioned by Dr. BARKER. As far as his, Dr. Bright's experience went, abscesses of the lungs, formed in the way described by the author of the paper, were very rare.

NODES.

Some notes of a case were also read, occurring in the practice of Mr. MALCOLMSON, an East India surgeon. The case had reference to one which was related to the Society by Mr. SKEY, a short time since, and which appeared in THE LANCET. It was not in which a node was arrested in its growth by mercury. In the case mentioned this evening, an abstract of which was last made on our going to press, the patient had been relieved from a venereal node on the tibia, by mercury, a large deposit of phosphate of lime occurring in the urine at the period of the disappearance of the disease. A conversation afterwards ensued on the occurrence of nodes.

Dr. GORDON inquired, whether the patient alluded to had ever had venereal disease? The node was said to be situated at the middle of the tibia. The occurrence of such a circumstance, unless from a venereal taint, was new to him. It would be interesting to inquire, whether nodes had any other than a syphilitic origin.

Mr. Malcolmson said, this individual undoubtedly had had syphilis. Mercury, however, produced nodes as frequently as the venereal disease. He had seen cases in which, however, they had their origin from neither of the above causes. It was a general fact, that when mercury was given in large quantities, without producing an effect on the constitution, pains in the bones and nodes supervened. He had repeatedly noticed this, when the medicine was given in liver or other affections, in cases where there was not the slightest reason to suppose venereal taint had existed.

Mr. Arnott said that three cases of nodes had occurred in boys under thirteen years of age, in the *Middlesex Hospital*. In two of these cases, though he had made every possible inquiry, he had not been able to ascertain that they originated in a hereditary syphilitic taint. In the other case, however, he had ascertained that the brother of the boy was labouring under syphilis at the time of his birth, that he subsequently had been affected with blotches on the skin, and an ulcer of the mouth, which the medical attendant declared to be syphilitic.

Dr. Gordon said he believed that mercury was given to ladies and gentlemen in India to a great extent, and that the occurrence of nodes among the ladies was a most unfrequent occurrence. But in cases where there was an ulcer of the genitals, whether mercury had been given carelessly or otherwise, nodes were frequent.

Mr. Perry had had frequent opportunities of witnessing the occurrence of venereal affections in children under his care in the *Foundling Hospital*. He had seen cases of nodes in patients under ten years of age. Those cases were of a marked character, and would undoubtedly have been considered syphilitic, if occurring in persons of an age to contract the disease. The symptoms gave way before the use of mercury. He thought it most probable that in all of Mr. Arnott's patients, the parents had communicated the disease. In the instances which he (Mr. P.) had mentioned, he had had no opportunities of making inquiries respecting the parents, from the manner in which children are brought to the Foundling, though he had no doubt they had communicated the disease to their offspring.

Mr. Arnott said it might possibly be the case regarding his patients; he had no great confidence in the assertions of individuals respecting the occurrence of syphilis to themselves.

Mr. Malcolmson said mercury was by no means frequently given to women of the higher ranks in India, and when administered, it was with great discretion. Iron was much more frequently employed, the diseases being chiefly those of depression. In the cases of nodes he had alluded to, many of them occurred in men who came into the military hospital, and who had been under observation for years, not having any opportunity of labouring under venereal disease without the knowledge of the surgeon. In these cases the nodes frequently came on before the patients left the hospital. He had seen the pains of fever alone, produce obstinate nodes. He had very seldom seen disease of the bones following primary syphilis which had been treated without mercury.

Insensibility of the Heart.—This proposition of Harvey, which has been denied by Morgagni, I think is strongly illustrated by the following case:—In the Museum at Martinique, is preserved a heart, with the end of a sword, five inches in length, impacted in it. The case was that of an officer, who in a duel received a sword wound in the right side of the chest; the point of the weapon broke, and the seconds supposing it to have been lost in the grass, walked with him to the hospital, where he expressed so little uneasiness, that the surgeon, supposing it to be a mere flesh wound, allowed him to return on board his ship, where he continued without any suffering the whole of that day; but at night very severe symptoms supervened, and he died next day. On examination, it was found that the point of the sword had passed through the right auricle, and wounded the left lung. Mr. Carlile, demonstrator of anatomy at Trinity College, mentioned to me, that in his experiments on this viscus, punctures of its substance affected its motions but slightly, and even on inserting tubes through its parietes into the cavities, though at first some slight palpitation was produced, yet the heart soon accommodated itself to their presence; but if he compressed the nerves going to its substance, by passing a ligature round the aorta and pulmonary artery, much suffering was evinced. In come cases, however, instant death follows the wound, and this is important in a medico-legal point of view, as has been laid down by Beck, and by Dr. Wallace, in a clinical lecture on this subject, published in The Lancet.—*Mr. Lees, in Dub. Med. Jour. May*, 1837.

Errata.—In Dr. Thomson's Lect. XXIX. the following errors accidentally escaped correction:—Page 146, col. 2, line 57, *for* exuded *read* exudes; 147, col. 2, line 43, *for* rachialis *read* branches; 148, line 32, *for* him *read* you; and after line 58, *insert*, Now in the instance to which I allude, the common carotid was tied.

In Leader, page 169, col. 2, line 36, *for* only period *read* only one period.

Our report of the Guy's Hospital meeting of students is again, from its length, unavoidably delayed.